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Text – The European Space Agency should [ ]

Solves the case – European exploration advances scientific understanding and technological innovation

Space Advisory Group 10 (Space Advisory Group of the European Commission, Framework Programme 7-Space Theme, “Space Exploration, a new European flagship Programme”, October 10, <http://ec.europa.eu/enterprise/newsroom/cf/_getdocument.cfm?doc_id=6195> YS)

 The SAG recommends that the EU become more involved in space exploration by providing the appropriate political, societal and financial frameworks, and by taking full advantage of ESA's financial, technical and managerial capabilities. The role of the EU is of paramount importance for future European space exploration, not only to give a clear political signal for the way forward but also to ensure that the necessary resources are made available, leading to a substantial increase in the European budget for solar system exploration. To cover all the proposed objectives, an annual contribution of € 1.8 bn would be needed over the 2014-2020 timeframe. An EU annual contribution of about € 900 million is deemed the absolute minimum necessary. An additional equivalent sum of € 900 million per year would be also needed to develop an autonomous European capability to send its astronauts into space. Such an exploration programme has several facets, including the scientific drive to acquire new insights into the emergence of life and the evolution of our solar system. These will drive the need for innovative technological and system developments. Space exploration has the potential to inspire people, particularly the younger generations, and foster a greater European integration by harnessing an ambitious forward-looking challenge that will help provide solutions to many societal challenges.

\*\*Solvency\*\*

Exploration (1/2)

**Europe solves exploration – navigation, launch and re-entry capabilities**

Gallois 9 (Louis, Chief Executive Officer of EADS (European Aeronautic Defense and Space, “Europe Must Reaffirm Its Space Ambitions”, Spiegel Online International, July 18, [http://www.spiegel.de/international/europe/0,1518,636819,00.html](http://www.spiegel.de/international/europe/0%2C1518%2C636819%2C00.html) YS)

Over the last five years alone, this field has generated some 15,000 new jobs in Europe. In 2008, a total of 40,000 people were employed in the industry. A further 250,000 people work in associated areas. After Ariane 4, the Ariane 5 launcher ensures Europe's autonomous access to space. This powerful tool recently put the world's largest communications satellite into space. Last year, Europe docked the Columbus space laboratory and the Automated Transfer Vehicle (ATV) to the International Space Station. In this regard, 2008 was a year of great successes. Europe's footprint in space had never been bigger. Isn't that sufficient? No -- not if we want to continue playing a primary role in coming decades. The gap is growing between European annual expenditure on space -- currently €6 billion ($8.5 billion) -- and that of the US, which spends eight times as much. What's more, Russia is also pumping billions into its space industry once again. Other players are also emerging, notably in Asia. China plans a manned mission to the moon by 2030 and a manned mission to Mars by 2050. Beijing is already investing at least as much as Europe in space technology. In recent years, the Chinese have increased their investment in space exploration by 12 percent annually. In India, spending on space has increased by 25 percent. Brazil also wants to underpin its presence in space. In comparison, Europe's budget has remained more or less stable. All around the world, manned spaceflight enjoys particular attention. In 2007, it represented a very large space budget item globally, totalling some $12 billion -- an 8 percent increase over 2006. Competition is increasing and space exploration has the same importance as it did 40 years ago. To define its future place in space, Europe needs a new vision. That vision must be communicated through several objectives which aim to fortify Europe's strong position in space and the continent's economic competitiveness in a globalized world: 1) Europe needs [Galileo.](http://www.spiegel.de/international/europe/0%2C1518%2C549401%2C00.html) This navigation system will potentially create more than 100,000 jobs. It will open the door to a world of new possibilities and discoveries. But Europe has been slow in going for this goal. Others have shown more determination. Last year, the US decided to invest $10 billion into its third generation GPS. Russia is completing its Glonass system and China is launching Compass. Europe has to understand that Galileo is an opportunity it can not afford to miss. But that requires accelerating the pace of implementing the project. 2) We must ensure autonomous European access to space. A new Ariane 6 launcher is the solution. But for Ariane 6 to go into service between 2025 and 2030, Europe would have to start development on the project early next decade. The US, Russia and China have already invested heavily in launchers. To make Ariane 6 a reality, Europe needs to act quickly and determinedly. 3) Whether Europe wants to explore Mars or the moon, we need capsules that can safely bring back probes, equipment or even astronauts from space. The Advanced Re-entry Vehicle is the next step after ATV. The key technologies are available --we simply have to put them together. That is something we are capable of doing.

Exploration (2/2)

Europe solves space exploration – world class capabilities

Smith 10 (Marcia, “European Space Ministers Emphasize Space-Based Infrastructure, Exploration”, Space Policy Online, November 27, <http://www.spacepolicyonline.com/pages/index.php?option=com_content&view=article&id=1245:european-space-ministers-emphasize-space-based-infrastructure-exploration&catid=91:news&Itemid=84> YS)

The space ministers of the European Union (EU) and European Space Agency (ESA) met on November 25 in Brussels, Belgium for the seventh time since the two organizations signed a framework agreement in 2004.   The two groups have overlapping, but not identical, memberships.   The EU is a political body, while ESA is technical.   The two have worked together on the European Galileo navigation satellite system and the Global Monitoring for Environment and Security (GMES) program for several years. The Space Council meeting took place as part of a meeting of the Council of the European Union on "Competitiveness (Internal Market, Industry, Research and Space)."    A [press release](http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/intm/118015.pdf) from the EU said that the Council "endorsed a resolution on the orientations to be taken so that Europe can continue to develop world-class space infrastructures and applications, and to rely on efficient space systems to serve its citizens."    The Galileo and GMES programs were given special emphasis. Among its many points, the [resolution](http://consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/intm/118012.pdf) itself "ACKNOWLEDGES the increasing dependence of the European economy and policies ... on space assets and the critical nature of space infrastructures for autonomous European decision making...."    It also "NOTES the EU's proposal for a Code of Conduct in Outer Space" and "RECOGNISES the need for a future Space Situational Awareness (SSA) capability as an activity at European level..." Article 189 of the Lisbon Treaty, which went into force in December 2009, gives the EU an explicit role not only in European space applications like Galileo and GMES, but also in space exploration.   The resolution issued yesterday "CONSIDERS" that Europe's robotic and human space exploration program should be undertaken "within a worldwide programme" developed by building upon existing international partnerships.  The International Space Station (ISS) is specifically cited as an example.  The resolution "TAKES NOTE" of the decision by some ISS partners to extend operations of the ISS until at least 2020 and stresses the need to effectively utilize the facility. Regarding space exploration, the resolution "STRESSES the strong common interest of Member States in Mars exploration" and "CALLS UPON the European Commission and ESA [Director General], jointly, to develop and propose a European exploration strategy..."

Exploration – Unmanned (1/1)

Europe solves – unmanned exploration

Space Advisory Group 10 (Space Advisory Group of the European Commission, Framework Programme 7-Space Theme, “Space Exploration, a new European flagship Programme”, October 10, <http://ec.europa.eu/enterprise/newsroom/cf/_getdocument.cfm?doc_id=6195> YS)

The Space Exploration Flagship must bring a change in paradigm in planetary exploration. Instead of the single Mars rover or sample return mission approach, the community must engage in the setting-up of very capable robotic missions leading to a stable infrastructure followed by manned missions which should be prepared in parallel by developing the necessary knowledge and enabling technologies.

Exploration – Manned (2/2)

Europe solves manned missions

Liebert 9 (Mary Ann, Astrobiology, Http://Www.Liebertonline.Com/Doi/Pdf/10.1089/Ast.2007.1226 “Science-Driven Seanrio for Space Exploration: Report from the European Space Sciences Committee (ESSC), ESSC-ESF Position Paper, <http://www.liebertonline.com/doi/pdf/10.1089/ast.2007.1226> YS)

Whether done robotically or with humans, or both, science and the search for knowledge are an essential part of exploration. Exploration without human spaceflight does lack an important societal and even scientific interest and perspective. Hence human spaceflight should be integrated in Europe’s Exploration Programme (EEP) in a synergistic way at all stages of development of the programme. However the first phases of this programme should be robotic.

Europe solves unmanned missions

Carpenter, ’10 (J.D., “Life Sciences Investigations for ESA’s First Lunar Lander”, Springer Science, <http://www.springerlink.com/content/a3110h1401131364/fulltext.html>, LH)

The European Space Agency (ESA) is preparing an unmanned Lunar Lander mission, as a precursor to future human exploration of the Moon and beyond for a nominal launch in 2018. At the time of writing this mission has been studied to Phase A level in three parallel industrial activities and is looking forward to the initiation of the Phase B1 level design. Illustrations of the lander designs emerging from the Phase A mission studies are shown in Fig. [1](http://www.springerlink.com/content/a3110h1401131364/fulltext.html#Fig1). The mission is part of a wider programme that seeks to prepare Europe for participation in future human exploration efforts by developing and demonstrating new technologies, increasing knowledge of deep space environments, such as the Moon, in areas important for planning and preparing human exploration activities, and gaining experience of working and operating in the relevant environments. The programme also seeks to bring together the various diverse expertise and disciplines that will be essential if humans are to successfully and sustainably explore beyond Low Earth Orbit (LEO).

Asteroids – Deflection (1/1)

Europe solves asteroid collision – tracking and deflection

ESA 5 (“ESA Selects targets for Asteroid-deflecting mission Don Quijote,” <http://www.esa.int/esaCP/SEML9B8X9DE_index_0.html>)

The current scenario envisages two spacecraft in separate interplanetary trajectories. One spacecraft (Hidalgo) will impact an asteroid, the other (Sancho) will arrive earlier at the target asteroid, rendezvous and orbit the asteroid for several months, observing it before and after the impact to detect any changes in its orbit. Industrial studies are now about to start; it will be down to European experts to propose alternative solutions for the design of the low-cost NEO precursor mission. This will be the first step towards the development of a means to tackle asteroid impacts – one of the few natural disasters that our technology can prevent.  While the eyes of the world were on the Asian tsunami last Christmas, one group of scientists were watching uneasily for another potential natural disaster – the threat of an asteroid impact. On 19 December 2004 MN4, an asteroid of about 400 m, lost since its discovery six months earlier, was observed again and its orbit was computed. It immediately became clear that the chances that it could hit the Earth during a close encounter in 2029 were unusually high. As the days passed the probability did not decrease and the asteroid became notorious for surpassing all previous records in the Torino and Palermo impact risk scales - scales that measure the risk of an asteroid impact just as the Richter scale quantifies the size of an earthquake. Only after earlier observations of the object were found and a more accurate trajectory was computed did it become clear that it would not impact the Earth – at least not in 2029. Impacts on later dates, though unlikely, have not been totally ruled out. It is extremely difficult to tell what will happen unless we come up with a better way to track this or other NEOs and if necessary take steps to tackle them. Most world experts agree that this capability is now within our reach. A mission like ESA’s Don Quijote could provide a means to assess a threatening NEO and take concrete steps to deflect it away from the Earth. But every good performance needs rehearsing and in order to be ready for such a threat, we should try our hardware on a harmless asteroid first. Don Quijote would be the first mission to make such an attempt. The big question was: which asteroid and what should it be like?

Europe solves asteroids – detection and deflection

Parker 4 (Randall Parker, Asteroid Collision Mission To Study Defense Against Asteroids on the recent ESA panel reconditions, July 16, 2004, <http://www.futurepundit.com/archives/002239.html> EL)

The European Space Agency has approved [a mission proposal to collide a space probe with an asteroid in order to study techniques to deflect any large asteroid found to be on a collision course with Earth.](http://www.esa.int/export/esaCP/SEMZO8M26WD_index_0.html) On 9 July 2004, the Near-Earth Object Mission Advisory Panel recommended that ESA place a high priority on developing a mission to actually move an asteroid. The conclusion was based on the panel’s consideration of six near-Earth object mission studies submitted to the Agency in February 2003. Of the six studies, three were space-based observatories for detecting NEOs and three were rendezvous missions. All addressed the growing realization of the threat posed by Near-Earth Objects (NEOs) and proposed ways of detecting NEOs or discovering more about them from a close distance.

Asteroids – Detection (1/1)

Europe solves detection - Observations

NASA 7/3 (NASA.com, ASIAGO DLR ASTEROID SURVEY (ADAS), July 3, 2011 <http://neo.jpl.nasa.gov/programs/adas.html> EL)

ADAS is a dedicated asteroid search and follow-up program located at Asiago-CimaEkar, Italy. It is a joint venture between the Department of Astronomy of the University of Asiago and the Astronomical Observatory of Padua in Italy and the DLR Institute of Space Sensor Technology and Planetary Exploration, Berlin-Adlershof, Germany. The current system uses a 2K x 2K CCD detector and a 0.6 m aperture Schmidt telescope. Observations began in February 2001 and this effort will concentrate their searching at small solar elongation angles in an effort to discover near-Earth objects in the inner solar system such as Atens and the putative Inner Earth Objects whose orbits are completely inside that of the Earth.

Europe solves detection – satellites

Larsen et al 01 (Je rey Larsen, Robert Jedicke, and Timothy Spahr. Lunar and Planetary Laboratory, Smithsonian Astrophysical Observatory, “Observational Selection Effects in Asteroid Surveys and Estimates of Asteroid Population Sizes,” <http://74.125.155.132/scholar?q=cache:FeidFFMrfX8J:scholar.google.com/+a+space+based+platform+provides+and+excellt+but+expensvie+vantage+point&hl=en&as_sdt=0,48>)

A space-based platform provides an excellent but expensive vantage point from which to survey asteroids. Suggestions for dedicated asteroid satellites abound but there is serious consideration for parasitic searches using two European Space Agency spacecraft: GAIA and BepiColombo. The former will be placed into orbit around Earth's L2 point and is expected to be operational for five years. In this low-radiation environment, with the Sun, Earth and Moon `behind' the instrument, they are expecting a high observing efficiency and anticipate a signing cant number of serendipitous observations of asteroids. The BepiColombo mission to Mercury covers the possibility of an observing platform interior to Earth's orbit which could be extremely effective for identifying Potentially Hazardous NEOs and locating IEOs

Colonization (1/2)

Europe solves space colonization

Liebert 9 (Mary Ann, Astrobiology, Http://Www.Liebertonline.Com/Doi/Pdf/10.1089/Ast.2007.1226 “Science-Driven Seanrio for Space Exploration: Report from the European Space Sciences Committee (ESSC), ESSC-ESF Position Paper, <http://www.liebertonline.com/doi/pdf/10.1089/ast.2007.1226> YS)

Europe should actively participate in the manned exploration of the Moon and Mars. The first step is to continue with robotic missions and prepare for manned missions to Mars. An intermediate step could be to contribute to an international venture to establish a human base on the Moon; the third step would be to contribute to the implementation of manned missions to Mars and back to Earth again. The Moon as a target for exploration missions offers a number of outstanding opportunities for science of, on, and from, the Moon. The main objective would be the discovery, 28 WORMS ET AL. FIG. 3. Artist’s view of the Mars sample return ascent module lifting off from Mars (© ESA).exploration, and use of the “8 th continent” (Crawford 2004), and the harvesting of unique information from the Moon as an archive of the formation and evolution of the Solar System. Furthermore EEP should consider the use of the Moon as a large laboratory in free space. While the Moon is geologically less active than Mars, its structure (core/mantle, chemical stratification) and geophysical processes are far from being understood and require in situ measurements (rover, seismic network, heat-flow probes, etc.) at various locations.

**Europe solves – Mars, Moon and NEOs**

Space Advisory Group 10 (Space Advisory Group of the European Commission, Framework Programme 7-Space Theme, “Space Exploration, a new European flagship Programme”, October 10, <http://ec.europa.eu/enterprise/newsroom/cf/_getdocument.cfm?doc_id=6195> YS)

The Space Exploration flagship should focus on targets that can ultimately be reached and inhabited by humans. The SAG endorses the progressive approach of ESA based on building blocks and taking into account the “flexible path” of the Augustine report 20 , that identifies Mars, the Moon and NEOs as destinations for Exploration and proposes the development of capabilities to reach such destinations. The SAG recommends Mars as the ultimate destination. However, without losing sight of this principal destination, the SAG recommends that the Space Exploration Flagship address also the other destinations mentioned above when they represent instrumental intermediate steps towards the final goal, benefiting from ESA actions and seizing opportunities of cooperation with partners. The SAG believes that such a “flexible path” makes the roadmap more robust with respect to programmatic constraints and international cooperation.

Colonization (2/2)

Europe solves colonization – key technology and capabilities

**NASA, no date** (executive branch agency of the United States government, responsible for the nation's civilian space program and aeronautics and aerospace research, The NASA-ESA Comparative Architecture Assessment, NASA, date, http://www.nasa.gov/pdf/259237main\_NASA\_ESA\_CAA-Report.pdf, BM)

In 2001, ESA initiated the Aurora program, and within the framework of this program has developed a long-term roadmap for space exploration.3 In the context of the Aurora program and in light of the development of the GES, ESA has analyzed the potential role of Europe in an international space exploration program. Referred to as the Architecture for Exploration Study (AES), ESA considered long-term scenarios and supporting architectures that enable a significant European role in international space exploration. This study is part of ESA’s strategic planning, and is performed in order to identify European strategic interests and priorities, define technology roadmaps, and to inform discussions at an international level on future exploration architectures and associated needs and opportunities for international coordination and collaboration. Both for the specific analyses ESA conducted for the AES and for the analyses conducted for the CAA, high-level objectives for European involvement in human and robotic exploration activities have been identified. Outlined below, these objectives have to be met by any potential scenario in order to ensure merit to the European community. In particular, any European contribution to an international exploration framework should: • Support European exploration interests and objectives4 – address the implementation of European lunar exploration objectives as well as foster technological innovation and Mars- forward preparation.• Enhance European autonomy - develop new strategic human spaceflight capabilities and enable the implementation of autonomous European human exploration scenarios.• Foster stakeholder engagement - create opportunities for international cooperation and broad stakeholder engagement.• Ensure programmatic coherence - build on European heritage; enable synergies with other ESA space programs and support European coordination towards a targeted role in a global space exploration architecture. With these objectives identified, the AES concentrated on defining the contributions that ESA could make to international space exploration architectures addressing:1. Human transportation, cargo transportation, or both, to planetary orbits and surfaces, including supporting orbital infrastructures;2. planetary surface operations, including surface habitation capabilities or mobility systems; and, 3. communication and navigation support services.

Mars (1/4)

Europe is comparatively better – solves Mars

Zey 10 (Michael, Future Trends Examiner, “As US Abandons Manned Flight, China, Russia, Europe Train For Space Colonization with Mars500”, National Examiner, 6/7/10, <http://www.examiner.com/future-trends-in-national/as-us-abandons-manned-flight-china-russia-europe-train-for-space-colonization-with-mars500>, JH)

the 1950s to the 1970s the United States and the former USSR dominated space exploration. Now, a number of countries, including a variety of European and Asian countries as well as Brazil have been sending up communication and military satellites and making preparations for ambitious manned space missions. A few years ago China became the third nation to launch a human into space. Japan just announced its plans to establish a [robotic moon colony](http://news.cnet.com/8301-17938_105-20006075-1.html) by 2020.To prepare for human space flight to distant orbs, a number of countries this week initiated a project called Mars500, a mission designed to examine the physical and psychological stresses astronauts might encounter during a 520-day trip to Mars. An international team of six researchers will experience this simulated manned mission to Mars housed in a virtual spacecraft sitting inside a large hangar at [Moscow's Institute for Medical and Biological Problems.](http://www.timesonline.co.uk/tol/news/world/europe/article7143887.ece)The spacecraft is actually a series of interconnected steel cylinders called "[Bochka](http://www.allheadlinenews.com/articles/7018894201?Moscow%20%22Launches%22%20Crew%20To%20Mars%20In%20Simulated%20Mission)," or barrel. Inside the spacecraft are small (32 square feet) windowless living quarters, personal cabins furnished with a bed, desk, chair and shelves. The self-contained environment is equipped with enough food, water, and other supplies to last the whole trip as well as [video games](http://www.allheadlinenews.com/articles/7018894201?Moscow%20%22Launches%22%20Crew%20To%20Mars%20In%20Simulated%20Mission), books, and other materials to amuse the crew during their leisure hours.The crew will spend the first 250 days “flying” to Mars, and after landing will explore the simulated model of the Martian terrain attached to the spacecraft module. Then the crew will embark on a 230-day return flight, finally exiting the enclosed environment in November, 2011.The six-person crew was chosen from hundreds of applicants. The commander, a recently-married Russian commander named Aleksei Sitev, 38, has worked at Russia’s cosmonaut training centre. The doctor, Sukhrob Kamolov, 32, and one of the researchers, Aleksander Smoleyevsky, 33, are also Russian. Other researchers include Wang Yue, 26, from China’s space training centre, and Diego Urbina, 27, an Italian- Colombian. The flight engineer is 31 year old Frenchman Romain Charles. Mars500 will provide these countries with a wealth of knowledge about the technological obstacles and psychological trials and tribulations a space crew will encounter both during the flight to Mars and while on the planet itself. By mission’s end China, Russia, and the European Space Agency will be years ahead of the US on the space learning curve. Clearly the US is  falling behind in the global space race. Recently the Obama administration decided to direct NASA's funding away from manned space flight to the Moon and beyond. The US is even ending its shuttle program this year.

Mars (2/4)

Europe solves mars exploration and development

Crooks, ’09 (Heather, United States Air Force, “Transatlantic Relations: The Role of Nationalism in Multinational Space Cooperation”, Naval Postgraduate School, 6/2009, <http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA501117&Location=U2&doc=GetTRDoc.pdf>, LH)

Not only has ESA put its sights toward the Moon, it has also invested in Mars exploration via Mars Express and the Aurora Program. Mars Express (with its lander, Beagle 2) was launched in June 2003 and was Europe’s first mission to the red planet. While the orbiter (Mars Express) continues to operate, Beagle 2 was lost during its descent to the surface. Recently ESA announced the extension of Mars Express to the end of 2009. Throughout its mission, Mars Express has provided high-resolution, color, three-dimensional images of the surface of Mars, as well as evidence of underground water-ice deposits via sub-surface sounding measurements. In addition, Mars Express has detected the former presence of liquid water on the surface and methane in the atmosphere, as well as Marian aurorae. The objective of the Aurora Program is to become a space leader in the future and to formulate and implement a “long-term plan for the robotic and human exploration of solar system bodies holding promise for traces of life.” Additionally, the purpose of the program is to explore the universe and solar system, stimulate new technology, and inspire the youth of Europe to take an interest in science and technology. International cooperation is a goal of the Aurora Program, as well; not only will the program rely on European nations, but it will also collaborate with Canada and the U.S. To that end, NASA has become an important partner to the ESA in terms of its Aurora Program, funding instrumentation for the ExoMars mission. As stated on ESA’s Aurora website, “the Aurora Programme can be seen as a road map for human exploration, from which a large number of scientific as well technology spin-offs will emerge, driven by the goal of exploration.” Such information would be invaluable to not only ESA, but to NASA and the rest of the world, as well. With appropriate funding and cooperation, the U.S. and ESA (and possibly Russia, Canada, or Japan) could collaborate on the largest human expedition ever and land mankind on another planet. Missions to Mars allow for ample international cooperation. Such a large undertaking could only be possible with contributions from many nations. To that end, the IMEWG was established in 1993 and continues to meet twice a year. The charter of IMWEG includes the following goals: “produce and maintain an international strategy for the exploration of Mars, provide a forum for the co-ordination of Mars exploration missions, and examine the possibilities for the next steps beyond the currently defined missions.” The aforementioned Mars Express program falls under IMWEG collaboration. In 2004, arrangements were made between NASA and ESA “to use each other’s orbiters as back-up for each other in relaying data and other communications from the landers to Earth.” Additionally, ESA intends “to use NASA’s Deep Space Network for communications with Earth during parts of the mission. US scientists are playing a major role in one of Mars Express’s payload instruments, MARSIS, and participate as co-investigators in most other instruments.” These actions are crossing the nationalism divide and furthering Mars exploration for all partners involved. In 2006, the International Mars Architecture for Return of Samples (iMARS) Working Group was established to develop a possible international Mars sample return mission intended for 2018–2023. This would be a fully international mission, in which partners would share not only the costs and risks, but also the rewards. ESA’s Exploration Program Manager, Bruno Gardini, states, “For Europe this is a major step to shape the future of the ESA Aurora Exploration Programme in 2008.”280 Additionally, a sample return mission (and how well partners cooperate) will serve the international community well when human missions to Mars are undertaken.

Mars (3/4)

Europeans capable of Mars exploration

Business Weekly, 2011 “CAMBRIDGE PARACHUTE CAN LAND PROBE ON MARS”, Business Weekly <http://www.businessweekly.co.uk/academia-a-research/12199-cambridge-parachute-can-land-probe-on-mars>

Cambridge students have tested a parachute capable of safely landing a probe on Mars. Students from the Cambridge University Spaceflight team (CUSF) have successfully tested model parachutes for the ExoMars lander. The ExoMars lander project is a European-led robotic mission to Mars. Working in conjunction with the European Space Agency, the student team tested a model of a parachute capable of landing on Mars, by re-entering the Earth’s atmosphere at 450mph. Footage showing the parachute's flight is available on YouTube. Entry, Descent, and Landing (EDL) is perhaps the most challenging part of any Mars lander mission. The process requires a complex system of heat shields, parachutes, retro-rockets and airbags, all having to assemble themselves mid-air. ‘Six Minutes of Terror’ is how engineers describe the process of EDL as a failure in any one part would lead to almost certain mission failure. “Our team's testing method has not only been successful but is an extremely cost effective way to test parachutes in a Mars-like environment,” said Iain Waugh, fourth-year undergraduate at the University of Cambridge. The testing method developed by the CUSF team costs only £1000 per launch to test one of the 1/10th scale parachutes. Previously, only full scale parachutes had been tested in this way, with costs of over a quarter of a million dollars per test.

Europe solves – key to knowledge about Mars

Redfearn, 2001 (ESA Publications Division, “Europe goes to Mars!” European Space Agency) <http://esamultimedia.esa.int/docs/science/media/marsexpress_brochure.pdf>

From the Greeks more than two thousand years ago to Eugene Antoniadi in the mid- 1900s, Europeans have made many important observations of Mars with the naked eye and through Earth-bound telescopes. They have even contributed their fair share of speculation and fantasy about the planet in a fine tradition beginning in 1897 with the publication of The War of the Worlds by H G Wells in which hostile Martians invade Earth. Europe, however, has never sent its own spacecraft to Mars – that is until now. The European Space Agency is building the Mars Express orbiter and its lander, Beagle 2, for launch to the Red Planet in 2003. The two vehicles will play key roles in an international exploration programme spanning the next two decades. Research institutes throughout Europe are providing the instruments on board the orbiter. Some were first developed for the ill-fated Russian spacecraft, Mars ’96. Now upgraded, they will provide remote sensing of the atmosphere, ground and up to 5 km below the surface, with a degree of accuracy never before achieved. The information gleaned will help answer many outstanding questions about Mars. One concerns the fate of water that once flowed freely on the planet’s surface early in its history; another is whether life ever evolved on the Red Planet. Beagle 2 will be the first lander since NASA’s two Viking probes in the 1970s to look specifically for evidence of past or present life. No other Mars probe planned so far is making exobiology so central to its mission.

Europe solves mars exploration

Corodini and Orosei, 2011 (Istituto Nazionale di Astroﬁsica, “The exploration of Mars: past and future”

<http://sait.oat.ts.astro.it/MSAIt820211/PDF/2011MmSAI..82..321C.pdf> )

After decades in which Mars exploration was advanced through American probes (while Soviets made many attempts that mostly met failure), the European Space Agency (ESA) launched its ﬁrst mission to Mars, called Mars Express, on June 2, 2003. Mars Express consists of two parts, the Mars Express Orbiter and the Beagle 2, a lander designed to perform exobiology and geochemistry research. Although the lander failed to land safely on the Martian surface, the Orbiter is successfully performing scientiﬁc measurements since early 2004, namely, high-resolution imaging and mineralogical mapping of the surface, radar sounding of the subsurface structure, precise determination of the atmospheric circulation and composition, and study of the interaction of the atmosphere with the interplanetary medium.

Mars (4/4)

Even if its not feasible now the counterplan solves mars colonization

Space Advisory Group 10 (Space Advisory Group of the European Commission, Framework Programme 7-Space Theme, “Space Exploration, a new European flagship Programme”, October 10, <http://ec.europa.eu/enterprise/newsroom/cf/_getdocument.cfm?doc_id=6195> YS)

Europe shall prepare the operational capabilities and infrastructures enabling future robotic and human exploration of Mars and other solar system bodies. Even if human missions to Mars will not be possible for several decades, it is necessary to develop the necessary knowledge and technologies to make this feasible. It may be necessary to use other intermediate targets.

Europe solves mars exploration and colonization

Baglioni et al, ’06 (Pietro, full professor of physical chemistry and lecturer at the University of Florence, “The Mars Exploration Plans of ESA”, IEEE Robotics & Automation Magazine, <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=1638019>, LH)

ExoMars will search for such traces of life at and near the Martian surface. It will also characterize the Martian geochemistry and water distribution at various locations, improve the knowledge of the Mars environment and geophysics, and identify possible hazards for future missions. In terms of technology developments, the mission will provide Europe with enhanced capabilities in the areas of entry, descent and landing surface mobility, solar electric power generation, surface and subsurface sample acquisition, and sample preparation and analysis. Looking beyond the ExoMars time frame, there is a strong scientific and technical interest in Europe to participate in an international Mars Sample Return (MSR) mission, which, for complexity and cost reasons is a primary candidate for international cooperation between multiple partners. A MSR mission is a major technological challenge as well as a greater opportunity for science. Moreover, it is a major milestone on the longer-term exploration road, since it will demonstrate the capability to go to Mars and safely return to Earth. The mission is currently foreseen to be implemented in the second half of the next decade, which represents an opportunity for Europe to continue to build up technological expertise in order to secure a significant and strategic role. Candidates for such a contribution include a fetching rover, designed to acquire soil samples and deliver them to the Mars Ascent Vehicle (MAV).

Moon (1/2)

Europe solves Lunar exploration and development

**ESA 10** (intergovernmental organization dedicated to the exploration of space, Next step for ESA’s first Moon lander, ESA, 9/16/10, http://www.esa.int/esaCP/SEM2S8WJD1E\_index\_0.html, BM)

Mission description: land autonomously with pinpoint precision near the Moon’s south pole, a region full of dangerous boulders and high ridges. The aim of ESA’s proposed precursor is to probe the moonscape’s unknowns and test new technology to prepare for future human landings. The first mission to visit the south polar region of the Moon took a significant step forward today when a further study contract was signed with EADS-Astrium in Berlin, Germany. The mission aims to land in the mountainous and heavily cratered terrain of the lunar south pole in 2018. The region may be a prime location for future human explorers because it offers almost continuous sunlight for power and potential access to vital resources such as water-ice. To reach the surface safely, the lander must precisely navigate its way to a mountain peak or crater rim, carefully avoiding boulders and steep slopes before gently setting down to take in one of the most spectacular views in the Solar System. The Moon is a favoured target for the human exploration missions outlined in the ‘Global Exploration Strategy’ by 14 space agencies around the world. The strategy supports international space exploration and calls for further studies of the Moon and Mars – places where humans will one day live and work. 18-month effort begins in Berlin today The contract was signed by Simonetta Di Pippo, ESA’s Director of Human Spaceflight, and Michael Menking of EADS-Astrium, in the presence of Peter Hintze, Parliamentary State Secretary in the German Federal Ministry of Economics and Technology."It is a great pleasure to see progress being made in Europe in the field of space exploration relying on key technologies developed for human spaceflight," affirmed Mrs Di Pippo.

Lunar missions are feasible for Europe

**ESA 10 (**intergovernmental organization dedicated to the exploration of space, Next step for ESA’s first Moon lander, ESA, 9/16/10, http://www.esa.int/esaCP/SEM2S8WJD1E\_index\_0.html, BM)

"With a strong and successful presence in low orbit, the Moon is the next natural goal on our common path to further destinations."Europe is actively and successfully present in these global projects, like ISS and exploration, which contribute to affirm our role as a modern, dynamic and innovation-driven continent."The proven capabilities of the Automated Transfer Vehicle as a technology demonstration are representative of Astrium’s skills and experience in automated rendezvous and docking procedures," stated Dr Menking, Astrium’s Senior Vice President Orbital Systems and Space Exploration."The concept of the new study is based on the technologies of ATV and this unique expertise will enable us to develop the key technologies; it would not be possible to envisage landing a robotic vehicle on the Moon without them." Proposed robotic lunar lander From a design concept to hardware reality The start of this ‘Phase-B1’ study is an important milestone because now, after the preliminary planning and feasibility studies, the mission’s design will be continued under the leadership of EADS-Astrium Bremen and some of the key technologies will be developed and tested for the first time. First, the most recent topographic data covering the Moon’s south pole will be analysed in detail to find the promising landing sites. The target area is poorly understood and only now are we are beginning to receive the information needed to consider landing and operating a mission there. Then, the robotic lander will be designed down to the level of its various subsystems, such as propulsion and navigation. The contract will culminate in a ‘Preliminary System Requirements Review’ in 2012, which will provide the basis for the final design of the mission and lander.

Moon (2/2)

**Europe solves human lunar missions**

**ESA 10** (intergovernmental organization dedicated to the exploration of space, Fly us to the Moon…south pole to be precise, ESA, 3/31/10, http://www.esa.int/esaHS/SEM83CIK97G\_ index\_0.html, BM)

The south polar region of the Moon, with dark craters and high ridges, is a world away from the relatively smooth terrain visited by Apollo astronauts four decades ago. This rugged moonscape is the target for Europe’s next leap into space.The possible deposits of water ice, heavily cratered terrain and long periods of sunlight make the lunar south pole and areas around it extremely interesting for explorers and scientists. It is therefore a prime target for future human missions to the Moon.Europe is now looking at a lander mission to pave the way for astronauts. This precursor would be the first European Moonlander and the first to visit the south polar region. ESA is now asking industry to submit proposals for this Lunar Lander mission. ESA’s Lunar Lander would pave the way for future human exploration on the Moon. There are two core goals.The first requires that it uses the latest navigation technology to fly a precise course from lunar orbit to the surface and touch down safely and accurately. On the way down, it must image the surface and recognise dangerous features by itself, using its own ‘intelligence’. Then the Lander shall investigate this unique region with a suite of instruments. It will investigate the properties and possible health effects of radiation and lunar dust on future astronauts, and it will examine the soil for signs of resources that could be used by human explorers.

Launchers (1/1)

Europe solves launch capabilities – key to competitiveness

European Security and Defense Assembly 1 (Assembly of Western European Union, “A joint European space strategy: security and defence aspects”, June 20, <http://www.assembly-weu.org/en/documents/sessions_ordinaires/rpt/2001/1738.pdf> YS)

26. While satellites are essential, access to space is even more important because having an independent launch capability means being able to put satellites into orbit. When Europe built its first satellite, called Symphony, it did not have any launchers and had to turn to the United States, which agreed to launch it on condition that no commercial use was made of it. This shows how important it is for any space power or country aspiring to become a space power to be able to rely on an autonomous and sufficiently reliable launch capability. Since the disaster that befell the Space Shuttle Challenger in 1986, this capability has taken the form of rockets or launchers. There are several types: heavy-lift launchers which can place large satellites in orbit and smaller ones suited to small satellites. 27. “The arrival of new launchers on the world scene requires a continuous adaptation of European offers. Maintaining the competitiveness of Ariane-5 is therefore a priority, notably through improvements of the launcher aiming to decrease the specific launch cost. In the medium term, adding European-manufactured small- and medium-launch vehicles should complete the range of launch services” 1

Satellites (1/1)

Europe solves satellites – expertise

Pasco, ’09 (Xavier, senior fellow at the Foundation for Strategic Research, “A European Approach to Space Security”, American Academy of Arts and Sciences, <http://carnegie.org/fileadmin/Media/Publications/PDF/spaceEurope.pdf>, LH)

Europe does have extensive experience with multiuse satellite systems through its long-standing scientific and experimental programs. In particular, a large number of scientific satellites or probes have been launched by the European Space Agency (ESA). Traditionally, other applied programs, such as Earth-observation satellites, have been launched by European nations themselves. Competencies are well established in countries such as France (for optical satellites), as well as Germany and Italy (for radar techniques). These national investments have directly benefited European science-oriented Earth observation programs and are possibly useful for security purposes. One of the most important space developments was undertaken by Europe in 2002 with the satellite Envisat, which is equipped with multispectral sensors and other new technical payloads for studying atmospheric composition. This makes it an efficient space laboratory for a large array of customers dealing with new security issues. A number of other experimental projects undertaken in the scientific program of ESA also demonstrate the excellence of European knowhow.

SETI (1/1)

Europe solves SETI

**Cooper ’10** (Keith, Staff Writer, “European Radio Array Launches SETI Search” Astronomy Now, 4/20/10, <http://www.astronomynow.com/news/n1004/20lofar/>, CCM)

And how does he foresee SETI developing in Europe, and the UK in particular, in the future? Recognising that the European astronomy budget is quite large, but also that there are many science projects competing for public funding, Penny has a figure in mind that would allow a respectable SETI and outreach programme. “I’d like one in 200 of the astronomy budget to go to SETI,” he suggests with enthusiasm for a subject that is obviously a passion of his. “I think that would be a reasonable amount.”

Europe can match US efforts

McClellan 11 (Jason, Producer Open minds Radio, “Europe looks to complement SETI’s search for alien signals” Open Minds Radio, 6/16/11, <http://www.openminds.tv/europe-looks-to-complement-setis-search-for-alien-signals-714/>, CCM)

But search efforts aren’t isolated to the United States. Europe’s Low Frequency Array, or [LOFAR](http://www.theworld.org/2011/06/europeans-hope-their-low-frequency-array-will-complement-us-seti/), came online last year, and hopes to complement SETI’s search for signs of extraterrestrial life. *TheWorld.org* describes, “LOFAR consists of fields of antennas spread out over five European countries.” And while many radio telescopes scan for signals at higher frequencies, LOFAR is designed to aim at the lower, noisier bands

Europe should increase its commitment to SETI

Heidmann, ’10 (Jean, British Interplanetary Society, “SETI in Europe: a synopsis” Smithsonian institute, 2010, <http://adsabs.harvard.edu/abs/1994JBIS...47...71H>, CCM)

The contribution to the Search for Extraterrestrial Intelligence (SETI) and to Bioastronomy by European workers is evaluated. It reaches the interesting level of 24% of the total international input. Leading European contributors are France, Austria, and Italy. Europe contributes mainly to SETI strategies, and while France is the sole contributor to SETI searches, Italy has search projects in development**.** Europe ought to play a more official role at the international level in the SETI enterprise.

Europe key to funding SETI

Penny ’11 (Alan, Professor of Astronomy, “SETI: searching the sky for signs of life” PRI, 6/15/11, <http://www.world-science.org/forum/seti-lofar-extraterrestrial-radio-telescopes>, CCM)

Penny calls the SETI Institute’s funding crisis “a severe blow.” But he says he remains committed to searching for alien signals. He is currently the Principal Investigator on a project that hopes to use [Europe’s Low Frequency Array, or LOFAR](http://lofar.org/), radio telescope to scan the skies for what could be signals created by alien civilizations.

Space Debris (1/1)

Europe solves space debris – tracking

**MSNBC 4/4** ( MSNBC news, Europe creating space-debris tracker of its own, 4/4/2011, <http://www.msnbc.msn.com/id/42417430/ns/technology_and_science-space/t/europe-creating-space-debris-tracker-its-own/> EL)

Human spacefarers and satellites constantly dodge a cloud of dangerous debris left over from orbital traffic accidents and launches. Now the European Space Agency has taken its first steps toward creating its own space surveillance system that could track thousands of objects per second. One such step takes the form of demonstrator radar that will eventually lead to a system capable of tracking 15,000 to 20,000 objects on the radar for at least 10 seconds each day. Having such awareness represents a necessity when even the tiniest space debris can destroy satellites or cause serious damage while traveling at speeds of 17,400 mph – not even space glue could salvage the situation.

Tracking is key – Europe solves

**MSNBC 4/4** ( MSNBC news, Europe creating space-debris tracker of its own, 4/4/2011, <http://www.msnbc.msn.com/id/42417430/ns/technology_and_science-space/t/europe-creating-space-debris-tracker-its-own/> EL)

European space missions currently rely upon the U.S. Space Surveillance Network to track the smaller pieces of debris in their path. ESA is setting the stage for the European version of such a system to take shape between 2012 and 2019. Just how the European system would fit with U.S. tracking capabilities remains unknown, but keeping electronic eyes on space is necessary if humanity hopes to harness space solar power or launch interplanetary missions that can travel safely in space.

Europe solves – mitigation

Atkins 11 (Nancy Atkins, Universal today, Space Debris Illustrated: The Problem in Pictures, April 11, <http://www.universetoday.com/13587/space-debris-illustrated-the-problem-in-pictures/> EL)

The ESA says it is crucial to start immediately to implement mitigation measures. This image shows a simulation of the 2112 GEO environment in the case when no measures are taken. In the top panel, with mitigation measures, a much cleaner space environment can be observed if the number of explosions is reduced drastically and if no mission-related objects are ejected. The bottom panel shows the “business-as-usual” scenario, without any mitigation measures taken. However, to stop the ever-increasing amount of debris, more ambitious mitigation measures must be taken. Most importantly, spacecraft and rocket stages have to de-orbited and returned to Earth after the completion of their mission. They’ll burn up in the atmosphere, or splash down in uninhabited ocean areas. In the case of telecommunication and other satellites operating in the commercially valuable geostationary zone, they should boost their satellites to a safe disposal orbit, as shown below.

Weaponization (1/1)

**Europe should weaponize space – solves US because of NATO**

Strategy and International Affairs Commission 7 (Strategy and International Affairs Commission, The militarization and weaponization of space towards a European space deterrent, 22/10/2007, <http://www.aaafasso.fr/DOSSIERSAAAF/DOSS.ACCES_LIBRE/PJ_CT/Comm.Aff.Internat/Militarisation_et_Arsenalisation_Vers.angl.oct07.pdf> EL)

Defensive in its first decades, the use of space for military purposes has now become offensive. The concept of militarized outer space has been replaced by that of “weaponized” outer space. Inter national law in space only strictly prohibits putting weapons of mass destruction into orbit. The threat of conventional arms development, mainly targeting the destruction of operational military satellites, is one which may not be prevented simply by diplomatic activity, an approach to which France has been wholeheartedly committed. In this context, a “European space deterrent”, based on the expression of a strong European foreign policy and on the development of independent means for orbital surveillance of ballistic and space launches, and indeed retaliation if attacked, including a rapid response capacity and small dedicated launchers, seems in itself to secure a space which, used for the social and economic development of France and Europe, will become more and more important in the next few decades. Such an asset would place Europe on an equal footing in dialogues with the United States in the context of a NATO equipped with interoperable space assets.

\*\*AT: Solvency Deficits\*\*

AT – No Solvency Advocate (1/1)

NASA Adminstrator advocates the counterplan

Vandore 8 (Emma, “NASA chief: Europe should build own manned spaceship”, USA Today,

<http://www.usatoday.com/tech/science/space/2008-06-05-nasa-europe-spacecraft_N.htm> YS)

PARIS — NASA Administrator Michael Griffin encouraged Europe on Thursday to develop its own manned spaceship, giving the world — and particularly the United States — another way of getting to the International Space Station. Europe became "a full-fledged space power" when flight controllers at a European Space Agency center guided an unmanned cargo ship, called Jules Verne, to the International Space Station in April, successfully delivering food, water and clothes, he said. Griffin said "it would be a small step" to develop that technology into "an independent European human spaceflight capability"

**AT – Europe = Not Key (1/1)**

**Europe is key to space exploration and development**

Space Advisory Group 10 (Space Advisory Group of the European Commission, Framework Programme 7-Space Theme, “Space Exploration, a new European flagship Programme”, October 10, <http://ec.europa.eu/enterprise/newsroom/cf/_getdocument.cfm?doc_id=6195> YS)

2. Europe should build on its tradition and experience of cooperation in space research and exploration to become a major player in the global exploration initiative and take a leading role for a series of significant exploration missions to Mars and other solar system bodies. Europe has gained key competencies in several scientific and technological areas from its past space activities, making Europe an essential partner in any global space exploration endeavour. Europe should acquire the key strategic competencies essential for Europe to maintain this position, while reinforcing its independence within a global cooperation initiative on space exploration, and strengthen Europe's space identity. It is essential that the EU play a central role to ensure the success of future European space exploration. It will bring a new political dimension to European exploration activities. Europe will thus embrace the spirit of the European Space Policy and "contribute to the knowledge-based society by investing significantly in space-based science and playing a strong role in international space exploration.

AT – Europe = Divided (1/1)

Despite disagreements, ESA remains committed and successful in space exploration

Crooks, ’09 (Heather, United States Air Force, “Transatlantic Relations: The Role of Nationalism in Multinational Space Cooperation”, Naval Postgraduate School, 6/2009, <http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA501117&Location=U2&doc=GetTRDoc.pdf>, LH)

Since its inception as a collaborative entity in Europe in 1960, ESA has faced many challenges. In contrast to NASA, which only deals internally with one country, ESA is comprised of twenty-two member or cooperative states and is subject to oversight by the EC; it is easy to see that disagreements will abound within the ESA and between ESA and the EC, many of which are fueled by political and economic nationalism. Along those lines, it took until 2007 for ESA and the EC to agree upon and implement a European Space Policy. Not only were policies a source of contention, but individual programs such as Galileo, GMES, and the *ISS* caused consternation, as well. Despite internal disagreements fueled by nationalism, Europeans remain committed to ESA and space exploration. Many political, economic, and technological advances take root in ESA, and Europeans are not willing to lose their foothold in these areas. By supporting ESA, Europeans are advancing communications systems, financial networks, satellite communications and broadcasts, and increasing environmental awareness. While disagreements are destined to continue, Europe as a whole is aware of the benefits of ESA and will continue to support this agency well into the future. The next chapter focuses on five case studies of cooperative projects between the U.S. and ESA and delves more into the question of how nationalism affects such projects.

AT – Europe = No Tech (1/1)

Europe has the technology

European Security and Defense Assembly 1 (Assembly of Western European Union, “A joint European space strategy: security and defence aspects”, June 20, <http://www.assembly-weu.org/en/documents/sessions_ordinaires/rpt/2001/1738.pdf> YS)

Considering that the European space sector today has technical expertise, a large scientific community and an efficient space industry but that there is no common political will to make the most of these assets; (ii) Stressing that it is imperative for Europe to have a space component and to consolidate its status as a world power by acquiring an autonomous capability in this area; (iii) Noting that the European space endeavour is based on a series of different choices and national programmes rather than on any European policy as such;

AT – Europe = No Funding (1/1)

ESA budget increase – proves members support the mission

**Selding, 11** (Peter, Space News Staff Writer, ESA Budget Rises to $4B as 14 Nations Boost Contributions, spacenews, 1/21/11, http://www.spacenews.com/civil/110121-esa-budget-rises.html, BM)

PARIS — Fourteen of the European Space Agency’s (ESA)18 member nations have agreed to raise their contributions for 2011 despite public debt concerns that have reached near-crisis levels in some of them, ESA officials said. As a result, the agency has been given an overall 7 percent budget increase, to 2.975 billion euros ($4 billion). The additional money could provide a financial cushion in the event unplanned bills arrive ahead of its member governments’ scheduled payments, officials said. “The fact that these nations have agreed to a fairly substantial increase in their contributions at this time is an indication of their belief that spending on research, and specifically on space technology, is an investment in the future,” said Gerhard Kreiner, ESA’s head of corporate controlling. In a Jan. 18 interview, Kreiner said that, in keeping with ESA Director-General Jean-Jacques Dordain’s commitment not to overstress the liquidity positions of its member governments, this money will not necessarily all be spent in 2011. As was the case for 2010, he said, ESA might be able to maintain a reserve of cash from 2011 to be available in the early weeks of 2012. ESA’s longstanding payments policy asks member governments to deposit cash in ESA’s accounts four times per year, with the first payment in February. ESA was able to save some 200 million euros from the 2010 budget, with this money now being spent to pay bills — notably industrial contracts — that are due before the February member-state payments, Kreiner said. In addition to cash from its member governments, ESA receives payments from the executive commission of the 27-nation European Commission as part of programs managed by ESA but sponsored, in whole or in part, by the commission. These include the Galileo satellite navigation system and the Global Monitoring for Environment and Security (GMES) Earth observation program. European Commission payments to ESA in 2011 are expected to total about 778 million euros. Another 233 million euros will come from organizations for which ESA performs work, such as Europe’s Eumetsat meteorological satellite organization. Finally, the agency expects to receive payments totaling 7.9 million euros in 2011 from nations that have cooperating-state agreements in place with ESA, a relationship that falls short of full membership. Dordain said he would be signing a cooperation accord with Israel in the coming weeks, and that Romania this year likely will become ESA’s 19th member state. All these funding sources combined will give the agency 3.99 billion euros in 2011, which is 6.7 percent over what ESA had to work with in 2010. France remains the biggest ESA contributor, paying 25 percent of the budget before the outside contributions from the European Commission and others are taken into account. Germany, which in the past couple of years has raised its ESA profile, is contributing 24 percent of the income ESA receives from its member states. Both France and Germany are increasing their funding to ESA in 2011 over 2010. But even some nations whose public finances are under heavy pressure, such as Spain, are increasing their ESA payments, Kreiner said. He declined to say which nations had reduced their payments to the agency for 2011. In a Jan. 14 press briefing on the budget, Dordain said the agency’s budget priorities remain so-called applications programs, which are believed to have near-term commercial value, and science.

\*\*AT: Permutations\*\*

AT: Perm – Do Both – Cooperation Fails (1/2)

NASA-ESA cooperation fails- Ulysses proves

Crooks, ’09 (Heather, United States Air Force, “Transatlantic Relations: The Role of Nationalism in Multinational Space Cooperation”, Naval Postgraduate School, 6/2009, <http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA501117&Location=U2&doc=GetTRDoc.pdf>, LH)

Ulysses began as the International Solar Polar Mission (ISPM), where the goal was to better understand how Earth’s environment is effected by the Sun. Two spacecraft, one built by NASA, the other built by ESA, were to be launched aboard the space shuttle in 1983; however, it was not until 1990 that the ESA spacecraft was actually launched to fly over the poles of the Sun. Unfortunately, seven years of delays was a difficult way for Europeans to learn that “the U.S. budget process makes it impossible for NASA to guarantee the continuation of an international project beyond a yearly basis.” Troubles began in the late 1970s, when NASA diverted $5M from the ISPM budget to the test and evaluation budget for the space shuttle. This prompted the chairman of the Senate Appropriations Subcommittee to request that NASA delay ISPM by two years’ this was the first step in a “series of problems … which culminated with the cancellation of the U.S. spacecraft.” The cancellation of the U.S. spacecraft for the joint *Ulysses* mission “was an exception to an otherwise steady norm and clearly international participation was still seen as politically beneficial in both receiving and maintaining Congressional and administrative support for a program.” While nationalistic behavior is not typically thought of in this manner, this is an example of just that. NASA deemed other national programs (including the space shuttle) more important than ISPM (possibly indicating that it was even more important that international cooperation), thus the cancellation of the spacecraft. Nationalism can also been seen in the early 1981 telex from Alan Lovelace, acting NASA administrator, to Director-General Eric Quistgaard of the ESA. The telex states: In the view of the scientific importance of the solar polar research, ew hope that ESA will continue with the mission which can now be launched in 1986 on a shuttle/centaur and that we will be able to maintain its cooperative nature. As I indicated to you yesterday, the NASA budget will permit support of the remaining spacecraft, including U.S. experiments previously planned for the ESA spacecraft.

ESA-NASA cooperation guarantees trade-offs – mars rover proves

Crooks, ’09 (Heather, United States Air Force, “Transatlantic Relations: The Role of Nationalism in Multinational Space Cooperation”, Naval Postgraduate School, 6/2009, <http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA501117&Location=U2&doc=GetTRDoc.pdf>, LH)

Again, however, difficulties with international cooperation may arise. Ironically, the cooperation of NASA and ESA on outer planet missions is coming at the expense of Mars rover missions. As the cost of the outer planet missions increase, funding for Mars missions is redirected. This leads to “NASA and European Mars managers and scientists [being] concerned that … NASA's Mars robotic sample return mission … will be done on the cheap.” At a time when Europe’s Institute for Scientific and Technical Information is trying to sell Mars to Europeans, members of the Institute feel as though they have been undercut. “Mars remains the ultimate goal of ….the VSE,” a goal which is strongly supported by both a Stanford University study and the National Academy of Sciences. This appears to be a Catch-22 for both NASA and ESA. In order to foster greater international cooperation for Mars missions, partnerships must be built to sustain less visible missions. While this is occurring on outer planet missions, the redirection of funds from Mars exploration negatively impacts such partnerships.

AT: Perm – Do Both – Cooperation Fails (2/2)

**No ESA-NASA cooperation due to US budget cuts**

Reich, ’11 (Eugenie, Knight Science Journalism Fellow at MIT, “Europe makes do without NASA”, Nature News, 3/22/11, <http://www.nature.com/news/2011/110322/full/471421a.html>, LH)

The European Space Agency (ESA) is pushing ahead without NASA support for its next big space mission, as the ongoing US budget crunch and competing priorities impose serious constraints on the US space agency (see *Nature* 471,278: 2011). ESA last week told leaders of three large, or ‘L-class’, missions that are competing for funding to revise their proposals by leaving out the substantial US contribution that had previously been assumed. “The decision was made very reluctantly,” says David Southwood, director of science and robot exploration at ESA. “NASA could not meet our timetable to launch.”

**Cooperation can’t happen now-NASA has minimal funding**

Travis, ’11 (John, deputy news editor, “European Space Missions to Go It Alone After NASA Yanks Support”, Science Magazine, 3/18/2011, <http://news.sciencemag.org/scienceinsider/2011/03/european-space-missions-to-go-it-alone.html>, LH)

European space scientists are scrambling to rethink—and redesign—massive potential missions after it was confirmed that NASA, whose budget is in disarray, won't contribute significant funding to any of the efforts. NASA's decision "means in principle that none of the three missions is feasible for ESA [European Space Agency]," notes Xavier Barcons of the Cantabria Institute of Physics in Spain, who has helped develop plans for the International X-Ray Observatory (IXO) (pictured), one of three so-called [L-class missions](http://sci.esa.int/science-e/www/object/index.cfm?fobjectid=42369) under consideration by ESA. ESA was supposed to decide in June whether to spend about $1 billion on IXO, the Europa-Jupiter mission known as EJSM-Laplace, or a space-based gravitational-wave detector called LISA. But each L-class mission, which wouldn't launch until the next decade, has been developed with NASA as a would-be partner. The beleaguered U.S. space agency has now told ESA it has higher priorities for its limited space science budget. So ESA will press ahead on its own, delaying its choice until 2012. The agency has asked each L-class group if a significant fraction of the science goals in their respective mission can be preserved within Europe's planned budget. "We've given them a year to come up with the answer," says Fabio Favata, head of ESA's science planning office. European scientists working on the three missions are now reviewing what can be cut from their projects. "It is disappointing ... all three missions will have difficulty now, and all three will have delays and redesigns," says physicist Karsten Danzmann of the University of Hannover in Germany, who is the European chair of the LISA International science team. "It is premature to say which science projects will be cut [from LISA], ... but science will be lost."

AT: Perm – Do Both – Softpower DA (1/1)

U.S. claims all credit – angers ESA

Ingham 6/1711 (Richard Ingham, international coordinator of science, health, and environment of American Free Paper, “Despite budget stress, US space ties strong: NASA” June 17th, 2011, <http://www.physorg.com/news/2011-06-stress-space-ties-strong-nasa.html>) NA

The NASA administrator met in Paris with the heads of the European Space Agency (ESA) and France's National Centre of Space Research (CNES). He heads to Italy next week for talks with Italian space agency chiefs. The trip takes place when the US space shuttle is about to be phased out after helping to complete the International Space Station (ISS), a giant erector-set project troubled by cost blowouts and delays. The United States has borne the lion's share, but indirect costs have also hit the Europeans and reduced the scope of scientific research aboard the orbital outpost. That has sparked some grumbling about the point of the ISS and doubts whether Europe should join the US in future "prestige" projects such as a return to the Moon and, perhaps by 2030, explore Mars.

AT: Perm – Do Both – Competitiveness DA (1/2)

Europe needs to independently access space to increase competitiveness

 Thisdell 11. (Dan Thisdell, staff writer. Europe outlines future in space, Fight Global. 6/14/11. NP. <http://www.flightglobal.com/articles/2011/06/14/357539/europe-outlines-future-in-space.html> DM)

The European Commission spelled this vision out with admirable clarity in an [April 2011 paper](http://ec.europa.eu/enterprise/policies/space/esp/index_en.htm) detailing its priorities for a new, "reinforced" European space policy, which will emerge from the coming rounds of EU budget making. As commission vice-president for industry Antonio Tajani puts it, space is about improving the safety and daily lives of Europeans. He says: "Space is strategic for Europe's independence, job creation and competitiveness. Space activities create high-skilled jobs, innovation, new commercial opportunities and improve citizens' well-being and security." And, he adds: "In order to achieve our goals, Europe needs to keep an independent access to space."

European space independent key to competitiveness

ESA 11 (European Space Agency, the international space agency of Europe. ESA increases availability of made-in-Europe space parts, ESA. 4/5/11. NP. <http://www.esa.int/SPECIALS/Space_Engineering/SEMCED6UPLG_0.html> DM)

Such components are often subject to export restrictions, most notably the US International Traffic in Arms Regulations (ITAR). Continued reliance limits the European access to high-end EEE-component technologies, curtailing the effectiveness of future missions and diminishing the competitiveness of Europe’s space sector.

Space independence is critical to European competitiveness

Gayet 10 (Francois gayet, secretary general of the AeroSpace and Defence Industries Association of Europe. ASD’S CONTRIBUTION TO THE CONSULTATION ON THE FUTURE, ASD. 5/6/10. NP. <http://www.asd-europe.org/site/fileadmin/user_upload/advocacy/ASD_Comments_on_the_future_EU_2020_Strategy_-_Final.pdf> DM)

Finally, it should also be noted that space, being a sector where R&D is very intensive, contributes therefore critically to Europe competitiveness. In addition to programmes with direct “down to Earth” benefits like Galileo and GMES, EU should now consider being an active partner in space exploration, contributing to the international endeavour with key building blocks, following an approach based on interdependency. To reap all benefits of space activity, Europe must ensure that it maintains alive the industrial capabilities to undertake space programmes with the appropriate level of autonomy. This also requires that Europe maintains appropriate access to space capabilities, with all required infrastructures.

AT: Perm – Do Both – Competitiveness DA (2/2)

Now key – Europe must maintain independent space capabilities

SAGEC 10 (Space Advisory Group of the European Commission, the international board on making space policies to increase European position in space. Space Exploration, a new European flagship Programme, Space Advisory Group of the European Commission. 10/10/10. Page 10. <http://ec.europa.eu/enterprise/newsroom/cf/_getdocument.cfm?doc_id=6195> DM)

In a period of economic crisis and tight budgets when Europe needs to increase innovation and competitiveness , it is wise to consider if Europe should wait some years before a full recovery of the economy has been attained before making such a significant commitment. SAG considers that today is the right moment to invest in space exploration. It will be seen that Space Exploration triggers innovation, strengthens competitiveness and creates wealth, three actions required for the desired recovery. To delay the launching of a Space Exploration programme will lead to a loss of the present technical competences, difficulties to exploit European facilities and the difficulty to retain the European talent in our private and public entities. Furthermore, there is a risk that European strategic partners in space will not wait for Europe and our role will be less important in the future and our research institutions and industry will not be able to reap the full benefits of the initiative.

\*\*Economy NB\*\*

UQ – European Economy Low (1/1)

European and Global economy low now

Ryan 7/7 (Siobhan, staff writer, Wayne Swan in grim warning on EU debt crisis, The Australian, 7/7/11, http://www.theaustralian.com.au/national-affairs/wayne-swan-in-grim-warning-on-eu-debt-crisis/story-fn59niix-1226089267747, KR)

"For some time now, I have characterised the global recovery as uneven and subject to risk," Mr Swan said. "In recent weeks, these risks have become more pronounced and the global recovery has weakened." Europe's sovereign debt woes took a turn for the worse this week when credit ratings agency Moody's downgraded Portugal's debt to junk status on fears the nation could default on its loans without a fresh bailout.

Link – Space K/ Economy (1/2)

Space Key to European Economy

Europa 11 (Press release, A new space policy for Europe: Independence, competitiveness and citizen’s quality of life, 4/4/11, http://europa.eu/rapid/pressReleasesAction.do?reference=IP/11/398, KR)

Vice-President Antonio Tajani, responsible for Industry and Entrepreneurship, said: “Space is strategic for Europe's independence, job creation and competitiveness. Space activities create high-skilled jobs, innovation, new commercial opportunities, and improve citizens’ well-being and security. This is why we need to reinforce European space policy to best exploit its social and economic opportunities for industry and SMEs. In order to achieve our goals, Europe needs to keep an independent access to space.”

Space activities generate growth

Europa 11 (European Commission, Towards A Space Strategy For The European Union That

Benefits Its Citizens, 2011, http://ec.europa.eu/enterprise/policies/space/files/policy/comm\_native\_com\_2011\_0152\_6\_communication\_en.pdf, KR)

Space activities and applications are vital to our society's growth and development. They often have a direct impact on citizens' daily lives. In this context, space policy is an instrument serving the Union's internal and external policies and responds to three types of need: – social: the citizens' well-being depends on space policy in areas such as the environment, combating climate change, public and civil security, humanitarian and development aid, transport and the information society; – economic: space generates knowledge, new products and new forms of industrial cooperation, it is therefore a driving force for innovation and contributes to competitiveness, growth and job creation; and – strategic: space serves to cement the EU’s position as a major player on the international stage and contributes to the Union's economic and political independence. In this regard, the space sector directly contributes to achieving the objectives of the Europe 2020 Strategy,1 namely smart, sustainable and inclusive growth. Space policy thus forms an integral part of the "Industrial Policy" flagship initiative and the Strategy calls on the Commission to strive "to develop an effective space policy to provide the tools to address some of the key global challenges and in particular to deliver Galileo and GMES". In October 2010, the Commission thus adopted the "Communication on Industrial Policy"2, in which the Commission proposes "measures in 2011 to implement the priorities of the space policy based on Article 189 of the TFEU [and will pursue] a Space Industrial policy developed in close collaboration with the European Space Agency and Member States". In its conclusions of December 2010, the Competitiveness Council concurred and underlined "in particular the role of the space sector in EU competitiveness and innovation." It noted "the Commission's intention to propose the necessary space policy measures and to pursue a space industrial policy."

Link – Space K/ Economy (2/2)

**New major space programs would largely increase European competitiveness.**

**Gayet 10.** (Francois gayet, secretary general of the AeroSpace and Defence Industries Association of Europe. ASD’S CONTRIBUTION TO THE CONSULTATION ON THE FUTURE, ASD. 5/6/10. NP. <http://www.asd-europe.org/site/fileadmin/user_upload/advocacy/ASD_Comments_on_the_future_EU_2020_Strategy_-_Final.pdf> DM)

It is crucial that a coherent political vision is established for the long-term. ASD suggest that: • a new High Level Reflection Group be launched with the aim of achieving a fresh political consensus between public authorities, research institutions and industry on the strategic priorities for Aeronautics for the next decade and beyond. • In this context, European competitiveness would best be served by the creation of new major federating research programmes.

**Competitiveness key to the European economy**

**SAGEC 10** (Space Advisory Group of the European Commission, the international board on making space policies to increase European position in space. Space Exploration, a new European flagship Programme, Space Advisory Group

of the European Commission. 10/10/10. Page 4. <http://ec.europa.eu/enterprise/newsroom/cf/_getdocument.cfm?doc_id=6195> DM)

The need for a European Space Exploration Programme is rooted in a number of Council Resolutions in 2008 and 2009, which globally consider space exploration as one of the main priorities for the European Space Policy. It is fully justified by a combination of cultural, inspirational, scientific, political and economic reasons. The impact of space activities for innovation and competitiveness has been a driver for progress in Europe in the past and it will be even more important for the future in the framework of the Europe 2020 Strategy. Space will generate economic benefits for Europe, both direct and indirect, in the space sector and also in other industrial sectors, and will boost employment and investments in high-tech domains. The programmes of the European Space Agency and the intervention of the EU in major space programmes demonstrate the political will to act. The TFEU now provides an expanded basis for action.

I/L – Key to Global Economy (1/2)

European economic collapse spills over to America and Globally

El-Erian 7/5 (Mohamed, PhD and CEO of PIMCO, Is Europe’s debt crisis a “Lehman Moment” for America?, Reuters, 2011, http://blogs.reuters.com/mohamed-el-erian/2011/07/05/is-europes-debt-crisis-a-lehman-moment-for-america/, KR)

Europe’s debt problem is indeed a headwind for what remains a disappointing US economic recovery. It dampens America’s export prospects, can raise the cost of borrowing for some American companies and diminishes an already low enthusiasm among banks to lend to households and small companies. Having said that, it is unlikely, though not inconceivable, that Europe’s debt crisis would constitute a “Lehman Moment” — a situation that totally paralyzes American economic activity, puts the country on the verge of a depression and triggers yet another round of extreme crisis management measures. There is now broad-based recognition of America’s persistent economic weakness. Most recently, the Federal Reserve has been forced again to revise downwards its growth projections for both 2011 and 2012. Moreover, with refreshing candor that speaks well to the uncertainties felt by the average American, Fed Chairman Ben Bernanke acknowledged in his second ever press conference on June 22 that only part of the economic weakness is due to transitory factors such as higher oil prices and supply disruptions associated with the Japanese tragedies. As Bernanke hinted, and as PIMCO’s analyses have demonstrated for a while, the US unfortunately faces four structural headwinds that are yet to be addressed properly by policymakers. First, and nearly three years after the global financial crisis, the US housing market is still unable to find a firm enough footing. This undermines confidence and limits labor mobility. Second, joblessness remains worrisomely high, and to make things even worse, is increasingly structural in nature. Witness the 9% unemployment rate, declining labor participation and an alarming 24% unemployment rate among 16-19 year-olds and a 40% rate for African-Americans. Third, credit is yet to flow properly in the economy. With bank lending still hampered, it is small companies and poorer households that suffer the most. Fourth, there is a problem of debt and leverage. Coming off a “great age” of debt and credit-entitlement that went way too far, balance sheet rehabilitation has been uneven and generally insufficient. Yes, some sectors, led by multinational companies, have recovered strongly. But far too many in the private sector are still over-indebted. Meanwhile, public balance sheets, be they of the Federal Reserve or the fiscal agencies, are contaminated to such an extent that they now constitute a source of medium-term uncertainty. Policy responses have been too timid in the face of the economic challenges, and for too long, lacking a central vision. Instead, they have been ad hoc, too reactive and lacking sufficient structural underpinnings. In the absence of a credible alternative, the role of the country’s main economic spokesperson has fallen to President Obama who, understandably and correctly, is extremely busy with many other national and international priorities. Meanwhile, the other arms of government — Congress in particular — are hostage to extreme political polarization, posturing and bickering. And the recurrent drama associated with budgetary legislation discussions — including the continuing budgetary resolution of a few months ago or today’s debt ceiling debate — adds to the uncertainties facing the nation. In sum, this is not an economy that is well positioned to deal with a shock from abroad, let alone a major one. Its ability to absorb a systemic shock has been worn down by persistent internal economic weaknesses and the agility needed to sidestep, or at least minimize the impact of the shock, has been eroded by slow economic policy responses and stretched balance sheets. All this helps to explain America’s concern about Europe’s debt crisis, which has led to periodic selloffs in capital markets and warnings from policymakers. It also speaks to why some commentators have gone as far to suggest that the country faces another “Lehman Moment” — a devastating shock that totally paralyzes the economy, disrupts the functioning of the financial system and pushes the country to the verge of a great depression. This situation was last faced in the fourth quarter of 2008 following the disorderly collapse of Lehman Brothers, the investment bank. As illustrated by various recounts of those nervous months, policymakers came very close to losing complete control of the situation, despite all the firepower at their disposals. Indeed, if it weren’t for the aggressive use of what was at that time a relatively healthy public sector balance sheet (especially that of the central bank’s), the US would have been forced into temporarily shutting down its financial system (including by declaring a “bank holiday”) and experiencing an economic depression which, according to some, would have been worse than that of the 1930s. The question of the “Lehman Moment” becomes even more important now that policymakers have less firepower at their disposal to counter a huge shock. So what should we expect in the months ahead? To be sure, the European debt crisis is a serious political, economic and financial engineering predicament that is hard to solve. As such, it will likely get worse before it gets better. In the process, it will slow global economic growth, increase risk premiums and darken the cloud over the health of the financial sector in Europe. None of this is welcome news to an American economy that urgently needs to create jobs. But it need not result in a repeat of the total Lehman paralysis provided three conditions are met: a banking system that remains robust, no disruptions to money market funds and limited blockage to the plumbing of the country’s payments and settlement system.

I/L – Key to Global Economy (2/2)

European Economic collapse spills over

Ryan 11 (Siobhan, staff writer, Wayne Swan in grim warning on EU debt crisis, The Australian, 7/7/11, http://www.theaustralian.com.au/national-affairs/wayne-swan-in-grim-warning-on-eu-debt-crisis/story-fn59niix-1226089267747, KR)

The potential for contagion is significant, particularly in the event of a disorderly default or an unravelling of assistance," Mr Swan said. "With banks in Europe and the US holding significant amounts of European government debt, such contagion could generate renewed financial market turmoil globally."

AT: No Spillover

European space benefits spill over and generate economic benefits

**SAGEC 10** (Space Advisory Group of the European Commission, the international board on making space policies to increase European position in space. Space Exploration, a new European flagship Programme, Space Advisory Group of the European Commission. 10/10/10. Page 15. <http://ec.europa.eu/enterprise/newsroom/cf/_getdocument.cfm?doc_id=6195> DM)

Higher investments in space will generate high-tech businesses and high quality employment, and will accelerate the change of economic models. Here, the consequences will not only bring benefits for large consortia but also for many high-tech SMEs. It is likely that the vast majority of the direct public funding will be transferred to the space industry but since Space exploration addresses new technology domains, other high-tech sectors will also benefit. Space Exploration will require between € 1 and 1.8 bn/year which can be compared with the current commercial value of all European civil institutional programmes, estimated at some € 2.2 bn per annum. These resources will also generate economic benefits.

Redirecting public investment to space generates more wealth to be put back into society---recent study proves

SAGEC 10 (Space Advisory Group of the European Commission, the international board on making space policies to increase European position in space. Space Exploration, a new European flagship Programme, Space Advisory Group of the European Commission. 10/10/10. Page 16. <http://ec.europa.eu/enterprise/newsroom/cf/_getdocument.cfm?doc_id=6195> DM)

Benefits are not limited to the space sector, although the spill-over effects on other sectors can be very difficult to estimate with precision. A recent study on the economic benefits of UK public investment in space indicates that for every euro invested in aerospace R&D, a turnover of 70 cents is generated in other sectors. Less recent studies conducted in the US indicated that the return on investment for each dollar invested in space R&D was slightly more than seven dollars over an 18 year period

\*\*Softpower NB\*\*

I/L – CP Key to EU Leadership (1/1)

Not doing the CP would result in European loss of leadership, innovation, competiveness, markets, scientists, and reaction ability

Space Advisory Group 10 (Space Advisory Group of the European Commission, Framework Programme 7-Space Theme, “Space Exploration, a new European flagship Programme”, October 10, <http://ec.europa.eu/enterprise/newsroom/cf/_getdocument.cfm?doc_id=6195> YS)

Continuing space exploration activities at the present level and failing to initiate an ambitious European flagship Exploration project in the near future will have a number of undesirable consequences for Europe: a. Loss of leadership in future space activities; weaker role in cooperation with other agencies outside Europe. b. Innovation will not happen in space and terrestrial areas to the extent it would have been fostered by the challenges of Space Exploration. c. Loss of competitiveness of European space industry as it would not have access to the advanced efficient technologies developed for Exploration. This will result in loss of markets and lower performance and higher-cost internal European institutional systems. d. Weaker role of space as an international policy tool. The positive impacts on other sectors will be lower than expected. e. Lack of exploitation of past efforts (i.e. ISS) where the existence of a long-term programme of activities during the life of the facility should represent an opportunity. f. Difficulties keeping skilled scientists and engineers in Europe, which would be tempted to join other more ambitious space programmes. g. Difficulties and critical delays to react on time when new opportunities arise due to the lack of knowledge or available human resources.

Europe should explore planets to remain a key player in space

Liebert 9 (Mary Ann, Astrobiology, Http://Www.Liebertonline.Com/Doi/Pdf/10.1089/Ast.2007.1226 “Science-Driven Seanrio for Space Exploration: Report from the European Space Sciences Committee (ESSC), ESSC-ESF Position Paper, <http://www.liebertonline.com/doi/pdf/10.1089/ast.2007.1226> YS)

In order to remain a key player with its unique expertise, Europe needs to maintain and further develop its independent capabilities for planetary exploration so that it can prepare independent access to planetary exploration. This should be done by developing its key enabling technologies and scientific domains of expertise. Niches already exist, e.g., EUROPE’S EXPLORATION PROGRAMME 25 FIG. 1. Artist’s impression of the Aurora programme roadmap (© ESA—AOES Medialab).for hardware development in the field of life sciences, geophysical sciences, and planetary sciences. Europe has already developed scientific capabilities benefiting human spaceflight in human physiology, countermeasures, and radiation health. Hence Europe certainly does not start from scratch on this exploration programme. Examples of these niche developments and achievements are • Mars Express, which on the one hand has demonstrated Europe’s technical capabilities to fly an independent planetary orbiter mission (Huygens and Rosetta lander are examples of landing devices) and on the other hand has provided ample information on the geology, mineralogy, and atmosphere of Mars, which is important for its further exploration (e.g., Lundin et al., 2004; Murray et al., 2005; Bibring et al., 2005).

Impact – Economy (1/1)

Perceived European credibility would save the economic crisis in Europe

Tabellini 10 (Guido, Italian economist, “The ECB: Gestures and Credibility,” May 26, 2010, tek.org.tr, YS)

The currency crisis that is affecting Europe is fuelled by several economic factors such as the fear of insolvency by Greece, low growth and deficits in southern Europe, the fragility of banking systems of many Eurozone countries. But there is another aspect that is becoming important: lack of confidence in the institutions (national and Community) and in people who lead them. Improvisation, conflicts, and turnarounds in handling the crisis in Greece have given the impression that governments and European institutions are not capable of facing the toughest challenges. The main culprits are national governments – Germany in particular. Recently there has been a further confirmation of German improvisation. BaFin, the Federal agency for financial supervision, has banned short selling on bonds in the euro and on a limited number of shares of financial companies. The decision is likely to be counterproductive – it leads to focus on short-selling the euro or other securities not covered by the prohibition. More importantly, it was taken unilaterally and without coordination with other European authorities.

Impact – Global Conflicts (1/1)

The EU model engages in well relations and promotes peace and prosperity

Nielson 08 (Kristian, PhD scholar at the Department of Political Science, “The Weakness of the EU’s Soft Power Strategy, September 11, 2008, <http://www.jhubc.it/ecpr-riga/virtualpaperroom/046.pdf>, YS)

These kinds of behaviour can certainly be observed in many of the EU’s policies towards other countries. In accession negotiations candidate states must accept the acquis in full, including respecting the norms and values that entails. The same has traditionally applied in the field of Development Cooperation, where the EU also makes stipulations regarding good governance and respect for human rights. More recently the development of the European Neighbourhood Policy has served as an example of the EU attempting to spread its norms and values to the countries bordering it, using the acqui as the main basis for doing so. The policy document itself for the ENP repeats the rhetoric of the EU being a force for good in spreading universal values in its neighbourhood, offering a closer relationship in exchange for the “effective sharing of values”. Through such policies the EU engages in what can be called milieu shaping by trying to alter the surrounding international environment and make it function in ways more amenable to EU interests. At the same time the EU attempts to actively engage with neighbouring countries, promoting reforms so as to prevent the sort of problems requiring more forceful responses from occuring in the first place. In developing the ENP the EU furthermore attempts to spread its influence based on the intrinsic value of closer association, since the countries covered by the policy are not currently on a definite track towards membership. The ENP is instead for some of the countries set up as an alternative to a membership perspective, that will give some of the benefits but without the ultimate carrot as an enticement. Pursuit of this kind of policies imply an extensive reliance by the EU on its significant amount of soft power. And the EU does hold significant attraction for these countries. Being an area of peace and prosperity has made many countries want to become members or develop closer relations. What attracts them about the EU are such things as its well-regulated Single Market, the environmental awareness of the EU and the policies it pursues on this issue, its respect for human rights and the entrenchment of democratic norms, cultural and educational exchange, the European way of life, and its adherence to multilateralism in solving global problems. By harnessing this soft power the EU sets itself up as a desirable partner for the neighbouring states, and thus achieves a certain amount of influence on their developments. What characterises the ENP is its voluntary nature. All Action Plans are agreed as bilateral exercises, where both sides can choose what they enter into. The EU thus avoids having to rely on overt coercion for exporting its values, although arguably the very insertion of conditionalities in both ENP actions plans and especially in accession negotiations is essentially coercive. The whole principle of conditionality implies a threat of withholding further progress if the candidate state doesn’t comply with the EU’s requirements.

Impact – Climate Change (1/1)

The EU is the key to engaging in world peace and climate change

Richardson 08 (Hugh, Head of the Delegation of the European Commission to Japan, speech: Smartening the EU’s soft power, May 16, 2008, <http://www.deljpn.ec.europa.eu/home/speech_en_Speech%2005/2008.php>, YS)

The EU has reaped tremendous rewards from its soft power, the result of which is an enlarged union of 27 Member States and unprecedented peace and prosperity on the European continent. And soft power is the key to strengthening alliances with China, India and new emerging markets, so vital for shaping the international system of the decades ahead. But the EU is not just about soft power, for although it does not wield a big stick, it does possess a large carrot: a prosperous single market that is a huge economic factor for countries wishing to do business with the EU, now the largest trade partner in the world. I shall come back to this mixture of soft power and economic influence later, but first I would like to review some of the EU’s leading roles and achievements that underpin the soft power concept. The EU’s major achievements The EU has developed into a significant, key global actor over the past half-century. The series of enlargements to the EU that have taken place in that period show a commitment to peace, freedom and prosperity that has not only served the original six founding nations well, but which has continued to stand as an alluring beacon to successive waves of new Member States and aspiring Candidate Countries. The EU stands as an example of the possibilities that can be achieved through successful, peaceful regional integration in other parts of the world, such as the African Union, ASEAN and Mercosur, however different the practicalities. Our success, and, we must be honest, our failures too, all stand as reference points for new regional co-operation ventures around the world. Aside from this European enlargement process, the EU contributes to global governance norms through its leading worldwide roles in trade, tackling climate change and assisting poorer, less developed countries. The EU is: ·The largest trade partner in the world ·The biggest donor in terms of development aid, providing 56% of total global flows ·The leader in the fields of sustainable development, environmental awareness and tackling climate change ·Committed to encouraging multilateralism, and also party to an extensive series of over 700 global, regional, association and co-operation agreements with the rest of the world.

\*\*Affirmative Answers\*\*

Perm – Cooperation Good – 2X Solvency (1/1)

Perm- the US should invite international partners to explore- solves better for science and tech

MIT 8 (Massachusetts Institute of Technology, “The Future of Human Spaceflight”, December, <http://web.mit.edu/mitsps/MITFutureofHumanSpaceflight.pdf> YS)

The primary objectives of exploration, national, and international prestige do not dictate exclusively national programs. Human spaceﬂight is sufﬁciently difﬁcult and expensive that international collaboration may be the only way to accomplish certain goals. Although most countries’ space programs contain nationalistic rhetoric, most also recognize the beneﬁts of cooperation. The United States has a

long history of collaboration with the European, Japanese, Canadian, and other space agencies, which should of course continue. International partnerships in human spaceflight represent the best use of science and technology to advance broad human goals and bring nations together around common values, hence they are a primary objective. The 1975 Apollo -Soyuz Test Project, for example, showcased an international gesture of cooperation between the United States and the Soviet Union at a time of tension between the nations. Through these and similar means, human spaceﬂight can be an effective instrument of global diplomacy. United States should reafﬁrm its long standing policy of international leadership in human spaceﬂight and remain committed to its existing international partners. In a signiﬁcant shift from current policies, such leadership should not be deﬁned only as “ﬁrst, largest, and in charge.” Leadership should also represent foresight in building new relationships and collaborations, and in setting an example for human spaceﬂight as a civilian enterprise. Given the public enthusiasm for human spaceﬂight around the globe, a clear perception of the United States as collaborating with other countries to accomplish goals in space would have far reaching beneﬁts. The United States should invite international and commercial partners to participate in its new exploration initiatives to build a truly global exploration effort, with signiﬁcant cost sharing.

Perm – Cooperation Good (1/1)

ESA-NASA cooperation good – cost savings, alliance cohesion

Crooks, ’09 (Heather, United States Air Force, “Transatlantic Relations: The Role of Nationalism in Multinational Space Cooperation”, Naval Postgraduate School, 6/2009, <http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA501117&Location=U2&doc=GetTRDoc.pdf>, LH)

Nation-states cooperate in high-technology ventures for such varied reasons as cost savings, a desire to increase the rate of technological research and development, risk sharing, and technology sharing and transfer, as well as strategic needs of alliance cohesion. Cooperation in these ventures also results in the generation of new products, processes, and services. As noted in a 2005 report to the United States (U.S.) Congress, “collaborative ventures are intended to accommodate the strengths and responsibilities of all sectors involved in innovation and technology development.” In 2008, officials in the White House noted that “the U.S.-European commercial relationship is the engine of the world economy.” To this end, the U.S. has joined with European countries to pursue advanced technology ventures in many areas. Academic, commercial, and military cooperation have resulted in noteworthy and diverse products including the structure of DNA, earthquake engineering, the Joint Strike Fighter (JSF), and the *International Space Station (ISS).*

Cooperation in space is more cost-effective

Crooks, ’09 (Heather, United States Air Force, “Transatlantic Relations: The Role of Nationalism in Multinational Space Cooperation”, Naval Postgraduate School, 6/2009, <http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA501117&Location=U2&doc=GetTRDoc.pdf>, LH)

Cost savings are a substantial benefit of cooperation, but especially in high-technology ventures. While an effort to cooperation with other nation-states may be more expensive in the short term (for example, extra travel, interpreters, different measurement systems, etc), such effort can be more cost effective in the long run. For instance, the ISS would have been entirely too expensive for one nation-state to fund independently. With the help of five cooperating nation-states (Canada, European nations under the veil of the European space Agency (ESA), Japan, Russia, and the U.S.), the construction and utilization of the ISS was much more feasible, since spreading research and development across numerous participants subsidizes the overall cost. Another example is the JSF; over $4.5B of the program have been funded through international cooperation. Though the U.S. could have produced the JSF without this funding, the technological advances may not have been developed as quickly. The sum of $4.5B may be a small portion of the overall cost of the JSF program; however, this funding and technology transfer from cooperating nation-states do have an overall positive impact the program.

Perm – Cooperation Good – Mars (1/2)

NASA and ESA cooperation good-expands collective capabilities for Mars

Ansdell, ’10 (Megan, George Washington Space Society, “Stepping stones toward global space exploration”, Acta Astronautica, <http://www.geology.wisc.edu/astrobiology/docs/Ansdell_et_al_2011.pdf>, LH)

Long-term cooperation between NASA and the European Space Agency (ESA) has been initiated through the Mars Exploration Joint Initiative (MEJI). The program provides a framework that will expand the collective capabilities of the two agencies as they jointly deﬁne and implement their scientiﬁc, technological and programmatic goals for Mars exploration. MEJI launch opportunities during the 2016–2020 timeframe should ultimately lead to a multi-element Mars sample return mission within the next decade [5].

International cooperation on Mars makes the mission achieved more efficiently

Crooks, ’09 (Heather, United States Air Force, “Transatlantic Relations: The Role of Nationalism in Multinational Space Cooperation”, Naval Postgraduate School, 6/2009, <http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA501117&Location=U2&doc=GetTRDoc.pdf>, LH)

While the U.S. was able to land man on the Moon forty years ago, no one has returned in over three decades. However, nations around the world continue to join the U.S. as space-faring countries. These partners can offer each other significant contributions in space exploration if international cooperation is allowed to come to fruition. With tightening space exploration budgets and the need for technology exchange, it is the author’s opinion that the ultimate goal of landing humans on Mars could be more efficiently realize through international cooperation. With international cooperation can come international success on a large scale. As stated by space expert Eligar Sadeh, “Today and in the future, it is hard to imagine that a major governmental or commercial space program could be undertaken without international space cooperation.” If respective space agencies lay aside nationalistic views, the greatest endeavor of landing humans on another planet can be realized. Such an accomplishment would not be just a single nation’s victory, but a victory for all of mankind.

Perm – Cooperation Good – Mars (2/2)

International cooperation key to a mission to Mars

Crooks, ’09 (Heather, United States Air Force, “Transatlantic Relations: The Role of Nationalism in Multinational Space Cooperation”, Naval Postgraduate School, 6/2009, <http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA501117&Location=U2&doc=GetTRDoc.pdf>, LH)

The objective of the Aurora Program is to become a space leader in the future and to formulate and implement a “long-term plan for the robotic and human exploration of solar system bodies holding promise for traces of life.” Additionally, the purpose of the program is to explore the universe and solar system, stimulate new technology, and inspire the youth of Europe to take an interest in science and technology. International cooperation is a goal of the Aurora Program, as well; not only will the program rely on European nations, but it will also collaborate with Canada and the U.S. To that end, NASA has become an important partner to the ESA in terms of its Aurora Program, funding instrumentation for the ExoMars mission. As stated on ESA’s Aurora website, “the Aurora Programme can be seen as a road map for human exploration, from which a large number of scientific as well technology spin-offs will emerge, driven by the goal of exploration.” Such information would be invaluable to not only ESA, but to NASA and the rest of the world, as well. With appropriate funding and cooperation, the U.S. and ESA (and possibly Russia, Canada, or Japan) could collaborate on the largest human expedition ever and land mankind on another planet. Missions to Mars allow for ample international cooperation. Such a large undertaking could only be possible with contributions from many nations. To that end, the IMEWG was established in 1993 and continues to meet twice a year. The charter of IMWEG includes the following goals: “produce and maintain an international strategy for the exploration of Mars, provide a forum for the co-ordination of Mars exploration missions, and examine the possibilities for the next steps beyond the currently defined missions.” The aforementioned Mars Express program falls under IMWEG collaboration. In 2004, arrangements were made between NASA and ESA “to use each other’s orbiters as back-up for each other in relaying data and other communications from the landers to Earth.” Additionally, ESA intends “to use NASA’s Deep Space Network for communications with Earth during parts of the mission. US scientists are playing a major role in one of Mars Express’s payload instruments, MARSIS, and participate as co-investigators in most other instruments.” These actions are crossing the nationalism divide and furthering Mars exploration for all partners involved. In 2006, the International Mars Architecture for Return of Samples (iMARS) Working Group was established to develop a possible international Mars sample return mission intended for 2018–2023. This would be a fully international mission, in which partners would share not only the costs and risks, but also the rewards. ESA’s Exploration Program Manager, Bruno Gardini, states, “For Europe this is a major step to shape the future of the ESA Aurora Exploration Programme in 2008.”280 Additionally, a sample return mission (and how well partners cooperate) will serve the international community well when human missions to Mars are undertaken.

Solvency Deficit – Generic (1/1)

ESA sucks-faces major challenges

Hollanders, ’08 (Hugo, UNU Maastricht Economic and Social Research Institute on Innovation and Technology, “Sectoral Innovation Systems in Europe: The Case of the Aerospace Sector”, Europe Innovation Watch, 4/2008, <http://archive.europe-innova.eu/docs/SIW_SR_Aerospace_20080509.pdf>, LH)

The Aerospace industry is one of the few sectors where it may be claimed that military purposes are still a driver for technological development. The European problem is that on the defence side of the sector, Europe is spending only one-eighth of the US R&D budget and, even worse, these funds are not centralized but national. The US is thus capable of financing and executing larger and more focused programs. The major challenges for the European Aerospace industry include: the development of one single European internal market, in particular for the defence sector; the need to open up the world market, in particular the US market; the requirement for stricter environmental regulations by developing new technologies and pan-European policies; the need for higher skill level of the workforce; the requirement to meet increased need for safety and security in civilian aviation by developing new technologies and pan-European policies; and the development of a more coherent approach to public funding in both the defence and space sectors.

ESA has challenges- EU cooperation

Crooks, ’09 (Heather, United States Air Force, “Transatlantic Relations: The Role of Nationalism in Multinational Space Cooperation”, Naval Postgraduate School, 6/2009, <http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA501117&Location=U2&doc=GetTRDoc.pdf>, LH)

In an interview via *Satellite Today,* two defense contractors expounded upon the political situation surrounding the EU, EC, and ESA. Ian Reid, president of space operations at QinetiQ, a defense and security technology company, stated that “Among the challenges that ESA faces (in 2008) are its relationship with the EU, its role as [a research and development] organization and its relationship with the European Commission.” He also stressed that with the enlargement of the EU, there would be pressures on the budget. In the same vein, Antoine Bouvier, the Chief Executive Officer (CEO) of European Aeronautic and Defense Space Company (EADS) Astrium states, “We have in Europe, a political setup which is more complex than and not as straightforward as the political organization in the U.S. …. It is more difficult here than in the U.S. due to this specific political situation in Europe.” In the U.S., only one country is arguing over where funding should go which projects should survive, and who has priority; however, in Europe, you have multiple countries’ nationalism is coming to light and providing input and arguing over funding, projects, and priorities ultimately vying for jobs for their respective country.

Solvency Deficit – Space Debris (1/1)

Europe lacks the funding to deal with the entire space debris problem

Science Daily 11 (Science Daily News, Surveillance System to Cut Risk of Space Debris Hitting Satellites, April 7th 2011, <http://www.sciencedaily.com/releases/2011/04/110406132020.htm> EL)

In the light of this potentially disastrous situation, the European Space Agency ESA decided to take concrete action by launching a Space Situational Awareness (SSA) program, which runs from 2009 through to the end of 2011, to create the basic framework for a new, European response to this problem. At present, Europe does not possess the necessary high-resolution radar systems capable of tracking all of the smaller items of space debris. For this, the experts have to rely on data supplied by the American Space Surveillance Network. The new European system is to be built up in stages between 2012 and 2019 at locations that have yet to be defined. ESA has awarded a contract to the Spanish company Indra Espacio to design and construct a radar demonstrator. The company has in turn called on the services of the Fraunhofer Institute for High Frequency Physics and Radar Techniques FHR in Wachtberg to help with the construction of the demonstrator -- a contract valued at 1.4 million euros. The Spanish company will develop the transmitter array, leaving the Fraunhofer scientists to develop the receiver system. The Fraunhofer experts are experienced in the design of radar systems: they already operate the TIRA (Tracking and Imaging Radar) system to detect objects in space. "TIRA is a mechanically steerable system that can be used to obtain images of discrete objects in high resolution. The new surveillance system, by contrast, uses an electronically steerable, inertia-free antenna that can be positioned very quickly. Unlike TIRA, it can observe a large number of objects simultaneously, detecting their position to a high degree of accuracy and sensitivity," says FHR department head Dr. Andreas Brenner

Solvency Deficit – Asteroids (1/1)

**The ESA can do Asteroid Deflection but lacks funding**

**Roberts 9** (Karlene H. Roberts, PhD, The Catastrophe We Can Prevent: The Near Earth Object Problem, August, 2009, <http://ccrm.berkeley.edu/pdfs_papers/9.09/Roberts_Near_Earth_Object_Problem3.pdf> EL)

The European Space Agency (ESA) has addressed one part of the deflection problem. Its project, Don Quijote, is a mission concept addressing the projectile proposal. A non threatening asteroid would be identified. A spacecraft would fly out and observe the asteroid for some period of time. A second spacecraft would then fly out and ram the asteroid and the first spacecraft would continue to measure changes in asteroid trajectory, etc. This program is as yet unfunded. Compared to solving other gripping Earth problems, like world peace, world hunger, climate change, etc., the solution to the NEO problem is relatively clear and relatively inexpensive. The fact that it seems not to be high on the world’s radar screen seems surprising, since it has the potential to collapse civilization or cause large disruptions to society.

ESA doesn’t have the assets to do Asteroid detecction

ESA 6/17 (European Space Agency, European endorsement for ESA's space hazards programme, June 17th 2011, <http://www.spaceref.com/news/viewpr.html?pid=33866> EL)

ESA's SSA preparatory programme aims to support European autonomy by providing reliable information and services on the space environment, particularly on the hazards to critical satellites in orbit and infrastructure on the ground. In general, these hazards stem from orbiting debris colliding with working satellites, the harmful effects of space weather on satellites and ground infrastructure, and potential strikes on Earth by objects such as asteroids and comets. Yet today, Europe lacks the full complement of telescopes, radars and data processing to warn of space hazards.

AT – Soft Power NB - Hegemony (1/1)

NASA’s prestige key to U.S. hegemony

Cooper 10 (Communications Manager of Bay Area Houston – Space Alliance Technology Program, March 10, 2010, “America Can’t Afford To Abandon Human Spaceflight” <http://www.bayareahouston.com/default/assets/File/America_can_t_afford_to_abandon_human_spaceflight.pdf>) NA

As stated previously, the demise of human spaceflight would be a national tragedy. Importantly, as a nation, we should make the decision to strengthen our position as the world’s leader in human spaceflight. This goes much deeper than bragging rights. Pride in NASA and its mission has inspired generations of young scientists and engineers. Even more significantly, our ability to maintain leadership in space has kept America safe and in control of our destiny. America is slowly giving up its technological advantage to countries which are advancing their human space programs. Is this what we want as a nation?

NASA bragging rights essential to U.S. hegemony

Planetary Society No Date (Planetary Society – Public Space Organization, Carl Sagan, Bruce Murray, and Louis Friedman are founders, “Projects: International Year of Astronomy”,

<http://planetary.org/programs/projects/international_mission_participation/iya/cooperate.html>

The International Year of Astronomy provides an opportunity to highlight the cultural shift that has taken place in planetary exploration over the past two decades.  The frontier days of space exploration, once a battle for bragging rights between two superpowers, are history.  Although national pride is still unquestionably an important reason that governments fund missions, space exploration is an increasingly international activity.  Many of the next steps in the exploration of our neighborhood in the solar system are so challenging that they seem daunting without the commitment and cooperation of many (if not all) of Earth's spacefaring nations.  Establishing a permanent presence on the Moon -- advancing the scientific study of the mini-solar systems and ocean-filled moons of Jupiter, Saturn, and beyond -- returning scientifically useful samples of rocks from the surface of Mars -- extending the presence of humans beyond Earth orbit to the Moon, asteroids, and Mars -- all of these will require billions of dollars and the kind of effort that only seems to be sustainable when departments of state, not just space agencies, commit to working together toward common goals.

AT – Soft Power NB – Alternate Cause (1/1)

Budget disputes fracture European unity and collapse leadership

**European Voice 2011** (“Spending rows damage the EU's credibility”, <http://www.europeanvoice.com/article/imported/spending-rows-damage-the-eu-s-credibility/70210.aspx>, 10-2-2011)

Fights over budget and location do not make the EU look good in the eyes of the public. The arguments between different European Union institutions over their administrative spending are an unedifying spectacle. Self-righteousness and hypocrisy are battling for the upper hand. As ever, it will be the EU's reputation that comes off worst. Last week the European Parliament was picking a fight with the Council of Ministers over the latter's administrative spending in 2009, demanding to verify whether money was indeed used for administrative purposes or for implementing policy (which would not be exempt from the scrutiny of MEPs). Some of the more belligerent MEPs say that they are ready to scrap an agreement dating from April 1970 that neither party should stick its nose into the domestic business of the other. Would that this threat were acted upon. European Voice has argued before that that agreement should go, along with another, dating from 1988, that fixes the Parliament's share of administrative spending at 20% of the total. But it will probably survive, because the MEPs stand to lose most. In another skirmish, Janusz Lewandowski, the European commissioner for financial programming and budget, was this week putting the squeeze on all the other EU institutions. In a pre-emptive strike, he urged them to limit their budgeting for administrative expenditure in 2012. He says that the EU has to send “a positive signal” to taxpayers. The commissioner is not wrong, but his message risks being taken as an exhortation to cheese-paring. It would be better for the enduring health of the EU if all the institutions seized this moment to look anew at what they do and why they do it, and whether they are providing value for money. There is an engrained habit in Brussels and Strasbourg to justify spending on the simple grounds that the activity being funded is required by an EU treaty or two. The argument works, but only up to a point. A more convincing approach would be to explain what is being paid for and why the cost is justified, with or without the obligation of the treaties. If the cost is not justified, then no EU institution should defend the indefensible. Two sensitive examples are instructive. The first is that old chestnut, the Parliament's shuttling between Strasbourg and Brussels. The treaty requires it, runs the familiar line, and the French government is not about to relinquish the obligation for the Parliament to meet 12 times a year in Strasbourg. The leadership of the Parliament is loath to pick a fight on this one, but a significant number of MEPs are less quiescent. They are right to be restive, because taxpayers are unlikely to be convinced that the cost is justified. The arguments in favour of spreading the EU institutions between Brussels, Strasbourg and Luxembourg have worn thin. Those who want to defend the cost should speak up. The second issue is that of languages. A growing share of the EU's administrative costs springs from translation and interpretation – that is, the use of 23 official languages. This is one of the defining characteristics of the EU institutions, but it is expensive, and the costs mount exponentially as the number of languages increases. Because political identity is very often tied up with languages, this is a very sensitive area, but the EU should start talking about the issue, not least because the admission of Croatia to the EU, to be followed by other Serbo-Croat-speaking countries, could trigger a new round of politically correct sub-division of language groups. Conspiracies of silence are not the answer. If the EU is to command greater respect and loyalty from its citizens, it must be prepared to defend publicly what the EU's administrative budgets are spent on. If it does not do so, it will be vulnerable to those who want to malign its reputation.

AT – Soft Power NB – No Impact (1/2)

European soft power is ineffective

Kramer 08 (Steven, PhD, Professor of National Security Studies at the National Defense University’s Industrial College of the Armed Forces, previous Policy Advisor to the Assistant Secretary of State for European Affairs, “The Absence of Europe: Implications for International Security?” October 2008, <http://libweb.uoregon.edu/ec/e-asia/read/SF235.pdf>, YS)

As the IISS report states, behind the issue of budgets and capabilities is the question of will. Robert Kagan has pointed out that Europe and America were diverging, the former moving in a Kantian direction, the latter in a Hobbesian. According to Judy Dempsey, who chronicled Europe’s stumbling efforts to end Balkan conflict in the 1990s, the problem is not that the Europeans criticized the U.S. tendency to prefer hard power to soft power but that they are unwilling to accept that in some situations soft power alone is not sufficient. European efforts to apply soft power in Afghanistan have failed. Europeans were content so long as the United States opposed creation of a vigorous European Security and Defense Policy (ESDP). Now that the United States accepts its value, “Europeans are not intellectually—let alone militarily—prepared to go down that road.” Taking into account Europe’s limited willingness to invest in hard power, one is struck by the almost mythic quality of the 20-year debate over ESDP, which proved so divisive to Europeans and so damaging to transatlantic relations even before Iraq.

Lack of unity and prosperity within national Europe thwarts EU soft power in the international scale

Kramer 08 (Steven, PhD, Professor of National Security Studies at the National Defense University’s Industrial College of the Armed Forces, previous Policy Advisor to the Assistant Secretary of State for European Affairs, “The Absence of Europe: Implications for International Security?” October 2008, <http://libweb.uoregon.edu/ec/e-asia/read/SF235.pdf>, YS)

 There are two further limitations to effective European action in the face of looming global challenges. The first is that Europe will be inwardly focused: on a sluggish economy, the crisis of the welfare state, and immigration and the assimilation of immigrants, especially Muslims. The second constraint— a very serious one—is a lack of convergence among key European leaders. All politics is local politics, and most European politics still occurs within the national framework. European nations are preoccupied with issues having little to do with international security or the institutional processes of European governance. The issues are similar in most countries: chronically slow economic growth exacerbated by the current recession; relatively high unemployment and a rigid labor market; an aging population and low birth rates, often resulting in negative growth of the native population; an extensive welfare state that can no longer be afforded but that is politically hard to reduce; and fear of immigration, especially Muslim immigration (although in general, immigration has been greatly reduced), and the problem of assimilating Muslim populations who are often marginalized economically and socially. It is hard to convince voters that more money should be spent on defense when there is no obvious threat, when European leaders have preached the superiority of soft power over hard, and when the public is reluctant to get involved in shooting wars such as Afghanistan. The less capability a country has, the less chance of having to use it.

AT – Soft Power NB – No Impact (2/2)

EU hopes for enhancing soft power lead to failure – no gain

Nielson 11 (Kristian, PhD scholar at the Department of Political Science of the University of Tartu, “The Eastern Partnership: Soft Power or Policy Failure?” 2011, <http://www.uaces.org/events/conferences/cambridge/researchpapers/abstract.php?recordID=589>, YS)

When the European Union launched its new Eastern Partnership in May 2009, it did so with much rhetoric about projecting its soft power into Eastern Europe. The new policy framework was supposed to be a step change from the European Neighbourhood Policy, at once meant to underline the EU's commitment to the region, and at the same time tie the partner states closer to the EU. Yet two short years later, the EU's soft power project seems to have stalled, with developments in the region, particularly in Ukraine, being less than favourable. Such outcomes, though, were fully predictable from the outset. By being another bureaucratic process, not including even a long-term prospect of membership, the EaP essentially replicated the main weakness of the ENP, of offering too little incentive and support to the partners. In such circumstances conditionality was a much less effective tool for milieu shaping, while the soft power appeal was equally reduced. In short, the EaP always had too little to offer. In promoting the EaP as a policy of soft power, the EU has once again forgotten that soft power can never be separated from the 'harder' policies that would meet the expectations of those wishing to align with it. This failure of policy continues to undermine whatever gains could have been hoped for from the Union's actually considerable reservoir of soft power.

European Union soft power useless

**Judson**, 7-6-2011(David, Editor in Chief of HurriyetDailyNews, “Time for EU to have its own ‘spring’”

<http://www.hurriyetdailynews.com/n.php?n=time-for-eu-to-have-its-own-8216spring8217-2011-07-06>)

Let me confess that I am, in general, enthusiastic about the EU as an idea. It was, once upon a time, a Big Idea. The post-war greats of Jean Monnet and Robert Schuman were just that, idealists. They envisioned a complex political union predicated on grand concepts of shared sovereignty, creation of a continental identity and the kind of policies that would later come to be known as “soft power.” Much of what they envisioned came to pass and the idea of Turkish participation caught on across the political spectrum here - for a while. But now the Big Ideas are sputtering in the face of so many small ideas. Not that the maturity rates on Greek bonds underwritten by the European Central Bank are unimportant. Not that differential drug pricing policies among member states is a matter that can be forever ignored. But whatever happened to the once-upon-a-time goal of being the “world’s most competitive bloc” by 2010? The goal was simply shelved, quietly of course, in 2009, when it was clear it wasn’t going to happen. And so we drift with last year’s buffed up “Lisbon Treaty” that subbed for a constitution and yielded a new EU presidency occupied by a Belgian with the charisma of an insurance claims adjuster and a foreign policy czardom headed by a baroness barren of a single profound thought. The EU has become a parody of Jonathan Swift’s Gulliver, the giant tied down by all the tiny folk in the Land of the Lilliputians. So many little ideas, France’s “Mediterranean Union” for example, has tied down anything approaching a Big Idea.

AT – Competitiveness NB – Non-Unique (1/2)

European manufacturing is growing now

**Reuters 5-2**-2011 (“GLOBAL ECONOMY-US, China factories slow; Europe, India boom”, http://www.reuters.com/article/2011/05/02/global-economy-idUSLDE74110S20110502)

Manufacturing growth in the world's two biggest economies softened in March but firmed in Europe and India, according to reports highlighting the fractured nature of the global economic recovery. The United States and China both saw a tempering of factory production in April, with the pace of U.S. manufacturing expansion easing for a second straight month. Still, U.S. activity remained firm and input prices rose to their highest in nearly three years, according to data from the Institute for Supply Management released on Monday. ISM said its factory index fell to 60.4 in April from 61.2 the previous month, slightly above forecasts for a reading of 60. It has held above the 50-threshold that separates growth from contraction since August 2009 and peaked in February 2011. Despite the decline, analysts were reassured there was not greater spillover into U.S. industry from Japan's earthquake. "We have had hits domestically from production and supply constraints from the Japanese disruptions and we are still over 60 on the manufacturing index so it is a very good report given the developments over the last six weeks," said Kurt Karl, chief U.S. economist at Swiss Re in New York. The contrast with Europe, where factories continued to hum, suggested a divergent monetary policy outlook will continue, with overseas central banks expected to continue to stay ahead of the U.S. Federal Reserve in hiking borrowing costs. The ECB raised rates in April for the first time since mid-2008, ramping up pressure on the U.S. dollar as investors opted to put their money on higher-yielding currencies.

European competitiveness high now

ESI. 08 (European space industry, an organization that is the focus of the European space industry. Green Paper on European Space Policy, the European space industry. 2/1/08. NP. <http://www.hellas-sat.net/files/file/EU_space_industry.pdf> DM)

Europe’s industrial sector has demonstrated an impressive level of competitiveness on the world space market, playing significant roles in scientific programmes, navigation and communication systems, remote sensing, launchers and space infrastructures. Its success has had far-reaching effects on the way we live and on the larger economy

EU economy recovering now

European Commission 11 (The European Commission For Economic And Financial Affairs, Published Spring 2011, “European Economic Forcast”, Http://Ec.Europa.Eu/Economy\_Finance/Publications/European\_Economy/2011/Pdf/Ee-2011-1\_En.Pdf)

 Looking ahead, EU GDP growth in 2011 is set to gather pace. This outlook is supported, inter alia, by better prospects for the global economy and by upbeat EU business sentiment. The former owes mainly to a better outlook for the US, continued buoyant growth in major emerging market economies and the expectation of a limited global macroeconomic impact from the earthquake and tsunami in Japan. As regards EU business sentiment, notwithstanding the tensions observed in some euro-area sovereign-bond markets, it has continued to improve since autumn. This points to economic activity gathering pace this year and shows signs that the recovery is also broadening across sectors, a picture corroborated by hard data readings. Financial markets conditions have generally continued to improve since last autumn, but stress in some sovereign-bond markets has remained high. Lending activity to the private sector, including to non-financial corporations, has turned positive, broadly in line with past cyclical patterns. As the economic recovery gains firmer ground and concerns about fiscal sustainability are addressed, financial-market conditions should continue to gradually improve and provide support to the recovery. For the banking sector, the new EU-wide stress tests and the implementation of appropriate follow-up measures should help to enhance the resilience of the system as a whole. However, with balance-sheet adjustments remaining incomplete in several sectors/countries and lingering concerns about developments in certain market segments, the situation remains generally precarious and uncertainty high.

AT – Competitiveness NB – Non-Unique (2/2)

European New deal passed- boosts competiveness

Economic and Monitary affairs 7/6 (Department of Economic and Monetary affairs of the European Parliament, Press release, 7/6/11, “A European “New Deal” to boost Competiveness”, http://www.europarl.europa.eu/en/pressroom/content/20110705IPR23376/html/A-European-New-Deal-to-boost-competitiveness)

Shifting policy making and spending in cross-border areas such as energy and transport from national to EU level would improve investment returns and cut costs by generating economies of scale. It would also give an urgently-needed boost to EU competitiveness, says the final report from Parliament's Special Committee on the Financial, Economic and Social Crisis, approved on Wednesday. Youth unemployment, social cohesion, the sovereign debt crisis and slowing growth are among the issues addressed by the non-legislative resolution, passed by  Parliament with 434 votes in favour, 128 against and 33 abstentions. The resolution analyses the reasons for the current economic and financial crises, suggests ways to avoid economic crises in the future and presents a long term vision for Europe. "This route that we have paved the way for can give new impetus to the European Union" said Parliament's rapporteur Pervenche Berès (S&D, FR), in the debate preceding the vote. **"More Europe" needed** A European "New Deal" should foster innovation, job creation and R&D investment, so as to give an urgently-needed boost to European competitiveness and ensure sustainable, green growth, says the report. The EU must either deepen its integration or risk drifting apart and falling into an era of populism and nationalism, says the resolution. In particular, MEPs urge stronger co-operation in cross-border policy areas such as energy, transport and foreign policy, where EU added value can be high. This shift in policy making towards the European level would, in the long term, need to be accompanied by an increase in the EU budget "to a sufficient size". Such a change would be tax neutral for citizens: it would come about through increased EU "own resources" and savings for national governments as a result of shifting activities to European level.  **Tax policies, euro-bonds and G20 reform**  The report urges closer co-ordination of national tax policies, a common corporate tax base, a European Treasury and changing the European Stability Mechanism into a European Debt Agency. It asks the Commission to look into a system of Eurobonds to reduce sovereign debt and stimulate fiscal discipline. MEPs also say the Bretton Woods institutions and other economic governance bodies, including the G20, should be incorporated in the UN system. The International Monetary Fund should also be reformed, so as to enhance its transparence and accountability and render it more democratic, while strengthening its role in the economic and financial surveillance of its members, it adds. Lastly, the resolution argues that revenue from a financial transaction tax could help fund the Millennium Development Goals and meet climate change commitments.

AT – Competitiveness NB – Alternate Causes (1/1)

EU economic collapse inevitable-Italy

Stepek 6/27 (John, Investing Expert, “The next big worry for the eurozone – Italy”, MoneyWeek, 6/27/11, http://www.moneyweek.com/news-and-charts/economics/europe/the-next-big-worry-for-the-eurozone-italy-54327, KR)

The bad news for the euro is that the country everyone’s worried about now really is ‘too big to fail’. It’s Italy. Italy’s woes – low productivity and high debt As if the eurozone crisis wasn’t bad enough, credit rating agency Moody’s has been adding some fresh turmoil to the mix. Earlier this month, the group said it was putting Italy on review, with the possibility of downgrading its Aa2 credit rating. What’s worrying Moody’s about Italy? Well, it’s the same problem as everywhere else. Debt is too high and growth is too slow. Italy’s average quarterly growth rate since 2000 has been just 1%, says Reuters. Productivity is low and labour laws are very strict. With an ageing population, that’s only likely to get worse. Meanwhile, its debt-to-GDP ratio is 120%. That’s bearable as long as it can borrow money from investors at low rates. But if markets get panicked by the problems elsewhere in the eurozone, then borrowing costs for Italy might rise. Suddenly servicing all that debt would be a lot tougher. Already the gap between the yield on Italian government bonds and German government bonds is at a euro-era record. (In other words, investors are lending to Italy at much higher rates than to Germany: you can keep an eye on this and other borrowing costs at our [bonds page](http://www.moneyweek.com/investments/bonds)).

Collapse Inevitable-Structural Problems

Reuters 6/26 (“George Soros says it is 'probably inevitable' a country will leave euro”, 6/26/11, http://www.telegraph.co.uk/finance/economics/8599634/George-Soros-says-it-is-probably-inevitable-a-country-will-leave-euro.html, KR

Soros reiterated his view in a panel discussion in Vienna that the Euro had a basic flaw from the start in that the currency was not backed by political union or a joint treasury.   “The Euro had no provision for correction. There was no arrangement for any country leaving the Euro, which in the current circumstances is probably inevitable,” he said.   While he called survival of the European Union a “vital interest to all”, he said the EU needed structural changes to halt a process of disintegration.   “There is no plan B at the moment. That is why the authorities are sticking to the status quo and insisting on preserving the existing arrangements instead of recognising there are fundamental flaws that need to be corrected.”   With a debt crisis in some peripheral members testing the EU cohesion at a time of popular disquiet in wealthier countries over bailouts, he said leaders had to adopt measures now to remedy the situation.   “Let's face it: we are on the verge of an economic collapse which starts, let's say, in Greece but could easily spread. The financial system remains extremely vulnerable...